RUSSELL MCGLOTHLIN (State Bar No. 208826)
BROWNSTEIN HYATT FARBER SCHRECK, LLP
1020 State Street
Santa Barbara, CA 93101
Tel.: 805-963- 7000
Fax.: 805-965-4333

Attorney for Seaside Groundwater Basin Watermaster

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF MONTEREY

CALIFORNIA AMERICAN WATER,

Plaintiff,

v.

CITY OF SEASIDE, et al.,

Defendants.

Case No. M66343

Assigned for All Purposes to the Honorable Leslie C. Nichols

NOTICE OF LODGING OF CORRESPONDENCE RECEIVED RE PURE WATER MONTEREY PROJECT

Action filed: August 14, 2003
Trial Date: December 13, 2005

Post-Judgment Case Management Conference: March 23, 2018

TO ALL PARTIES HEREIN AND TO THEIR COUNSEL OF RECORD:

PLEASE TAKE NOTICE that the Seaside Groundwater Basin Watermaster hereby lodges the following documents:

1. Correspondence from John Moore (Exhibit A);
2. Letter from Monterey One Water ("M1W"), dated July 30, 2018 (Exhibit B); and
3. Declaration of Russell M. McGlothlin In Support of Notice of Lodging of Correspondence re Pure Water Monterey Project (Exhibit C).

The Seaside Groundwater Basin Watermaster ("Watermaster") has received numerous emails from constituent John Moore regarding his concerns about the quality of the treated water

proposed to be injected into the Seaside Groundwater Basin ("Basin") pursuant to the Pure Water Monterey groundwater replenishment project ("PWM Project"), which is being developed jointly by M1W and the Monterey Peninsula Water Management District ("MPWMD"). Mr. Moore requested that his correspondence be provided to the Court. We asked Mr. Moore to clarify which of numerous emails he would like filed with this Court and he identified as a subset of his correspondence, attached hereto as Exhibit A.

Watermaster forwarded a copy of Mr. Moore's correspondence to M1W, which provided a responsive letter, attached hereto as Exhibit B. M1W explains in its letter that the PWM Project is an indirect potable reuse project that would involve the injection of 3,500 acre-feet per year of highly treated recycled water into the Basin to be subsequently recovered and used by California American Water ("Cal Am") as one component of its future water supply for its Monterey District.

Cal Am and MPWMD have jointly applied to Watermaster for a storage and recovery agreement for the PWM Project pursuant to Section IIILL.3.j.xx of the Amended Decision. Watermaster currently anticipates for the matter to be considered by the Watermaster Board this fall. As the Court's special master, it is Watermaster's responsibility to apprise the Court of any correspondence commenting on material Basin management issues and to receive and implement further instructions from the Court. However, because the Watermaster Board has not yet held a hearing or made a decision on the application for the PWM Project, this matter is not yet ripe for review by the Court. Rather, the Amended Decision at Section IILN, provides for the Court's review of any Watermaster decision on the Court's own motion or on timely motion by any Party. Watermaster believes that the appropriate time for any judicial review of this matter would be after a decision is issued by Watermaster together with a record pertaining to that decision.

Dated: August 16, 2018

BROWNSTEIN HYATT FARBER SCHRECK, LLP

By: _____
RUSSELL MCGLOTHLIN
Attorney for Seaside Groundwater Basin Watermaster

EXHIBIT A

MOORE CORRESPONDENCE

BROWNSTEIN HYATT FARBER SCHRECK, LLP
1020 State Street
Santa Barbara, CA 93101-2711

McGlothlin, Russell

From: John Moore <jmoore052@gmail.com>
Sent: Monday, August 13, 2018 8:38 AM
To: McGlothlin, Russell
Subject: Fwd: The difference between the Orange County Water District (OCWD) recycled advanced treatment project and PWM.

Add this and the other two e-mails from the week end that I copied you on to the record for the court filing.John M. Moore

---------- Forwarded message ---------
From: John Moore <jmoore052@gmail.com>
Date: Mon, Aug 13, 2018 at 8:36 AM
Subject: Fwd: The difference between the Orange County Water District (OCWD) recycled advanced treatment project and PWM.
To: Marcia Wright <marciawright@comcast.net>, Margaret Thum <margaret.thum@gmail.com>, Ron Weitzman <ronweitzman@redshift.com>, Bill Moore <bmoore@thegolfmart.com>

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From: John Moore <jmoore052@gmail.com>
Date: Mon, Aug 13, 2018 at 8:35 AM
Subject: The difference between the Orange County Water District (OCWD) recycled advanced treatment project and PWM.
To: Jim Johnson <jjohnson@montereyherald.com>

Mr. Johnson:
The Orange County Water District recycles human sewage into potable water by applying advanced treatment processes. Pure Water Monterey says it mixes human waste with toxic agriculture waste, applies similar processes that produce potable water.

Put aside for the moment that the Pure Water Monterey(PWM) project will be the first ever in its attempt to recycle toxic agriculture waste water. Mixing it with human waste water, is a mix condemned by all State Water Board experts, but Ok according to the PWM water safety expert.

The OCDW project treats human waste similar to the way that PWM intends to treat its mix. Then the two take dramatically different paths.

The OCWD treated water is injected into three basins which are NOT repositories of potable water. PWM intends to inject its treated mix into the Seaside basin which IS a repository of potable drinking water.

After injection into the Basins, the OCWD treated effluent percolates through sands, soils, aquifers, and the Santa Ana river for five years and then enters a huge aquifir which IS a potable water supply. 29 water districts then extract water for sale. The five years of percolation is a legal barrier that qualifies the OCWD water to a legal drinking water status.

The PWM project meets the two month in a basin part of the legal requirement to constitute a barrier, but fails to meet the requirement that it provide a "measurable improvement" in the water quality. PWM says that the two months in the basin allows tests for contamination before the potable water is retracted by Cal Am and sold to us, I say that only two months in the basin without measurable improvement in the water quality is legally "arbitrary and capricious."as a threat to public health. If Cal Am could inject the treated PWM mix into test wells, when contamination occurs the basin will not be contaminated, and the non treated water in the basin may get us through the contamination chapter. But such a direct injection into Cal Am wells is prohibited by law. So how can injecting into the basin be legal when injecting into a test well is not? It can't be, but it will take a court to make that finding.

The only remedy for citizens is political and that takes money and organization.

The PWM treated water must restrict its uses to non-potable purposes, similar to the California Water Service Co. that services the Salinas area and areas like San Jose all the way to Auburn. It sells huge quantities of treated, non potable water for irrigation of crops, parks, cemeteries, car washes, industrial cooling etc.
I am not an expert in Waste Water recycling for potable purposes, my opinion is based on the research posted on the State Water Board web site and the gold rated text book "Waste Water," a product of the U. C. Davis Waste Water faculty.

My objection is backed by current state law and regulations that prohibit the Direct Potable Water Reuse primarily because there are no tests for thousands of toxins that get through the advanced treatment membrane. In substance, the PWM project is illegal and it was permitted by an "arbitrary and capricious" process.

Every expert, except for the PWM expert(a sanitary engineer, not medically trained], strongly recommends deep water desalination projects over recycled human waste. The reason is health safety. John M. Moore 836 2d st. Pacific Grove, Ca. 831-655-4540

McGlothlin, Russell

From: John Moore <jmoore052@gmail.com>
Sent: Sunday, August 12, 2018 11:00 AM
To: georgetriley@gmail.com
Subject: Re: Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan

Sorry, but the MOW was authorized by the board as a matter of law. Also, you seem to be its agent.Take your chances. BTW, What are you afraid of?JMM

On Sun, Aug 12, 2018 at 10:53 AM George Riley <georgetriley@gmail.com> wrote:

Thanks for being persistent.
But your legal conclusion is wrong. PWN is not a public agency with Brown Act requirements. And the presentation by MOW is not a board action, and is not included in Brown act requirements.
My decision stands. I will make sure you have a chance to ask a question or two. But not debate.
George

On Sun, Aug 12, 2018 at 9:01 AM John Moore <jmoore052@gmail.com> wrote:

George. You say that the Tuesday forum is the proponents forum. I agree. That means that Water1Monterey and Public Water Now are controlled by the Brown act. It needed to post an agenda by Friday and is required to give the public an opportunity to present at the Tuesday forum. It may be a crime to go forward.

I renew my request to appear and present my evidence and argument at this government sponsored forum.

In his article, Jim Johnson quoted my general position about the illegality of the PWN project. He omitted my goal, which is: I want the judge in charge of the Seaside Basin to hire an independent medically trained expert about the public health safety, or not, of injecting the mix into the Seaside Basin and based on that evidence to decide whether the PWM mix is safe. Margaret Nellor, the so called expert for Water1Monterey was/is totally unqualified to testify about the safety of the projects mix. Agriculture waste has never been recycled for potable purposes and all state water board experts agree that current law only applies to municipal waste water and all other sources should be carefully excluded from the mix.(see attachment from state study).

I don't practice law anymore, but in my view, approval of a mix of muni-wastewater with unproven recycling of agriculture waste, is clearly "arbitrary and capricious" and illegal. IT is also a criminal nuisance per the Health and Safety code.

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"Yuck factor" - that's sooooo old and tired. If the pro-recycle cheerleaders would spend more time doing actual scientific research, instead of spinning wheels and fretting about anti-"yuck" PR, they might accomplish something useful.

Btw, Margaret Nellor was hired by Duffy Assoc for 2 tasks:
1. to lie about no public health risks of PWM
2. to address "perception" issues - "the mythical yuck factor" - LOL! Nellor and Riley - a match made in heaven.

I re-read Nellor's testimony to ALJ Weatherford - what an abrasive, arrogant bi*c*. She was so rude to Ron Weitzman - who the fudge does Nellor think she is? She's a freaking sanitation engineer. Big whoppie. Ron has his Ph.D. from Stanford in statistics and/or math. Ron's IQ is double Nellor's.

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Marcia

The state has standards, review procedures, and permit requirements. All are in play. We'll hear about them too. There has always been the yuck factor, but as more and more populations find it safe, more attention is given it as a safe use. That is the reason why it has moved as far along in California.

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You are now on record as opposed to an insurance policy by the judge who oversees the Seaside Basin in obtaining a relevant safety opinion from one or more of the medical experts who have advised the State Bd . that the test procedures to identify the chemicals and pathogens

that are guaranteed to get thru the PWM treatment are not yet in place. Cal Am customers are to be the test cases.

All of this risk to have Cal Am customers pay for the clean up of the most toxic agriculture waste known to man.
And the Salinas people will not be forced(against their will) to drink the stuff. Just us.

It is really scary, that a person of your insensitivity is leading the effort to buy out Cal Am. I am not a Cal Am fan, but to think of Dave Stoldt CEO of the Monterey Peninsula Water Management District running the Cal Am water business is cause for genuine fear. He could have given us a vote, but did not.

All experts about the choice, or not, of recycling waste water for potable purposes agree: If deep water desalination based on the proven Israeli technology is available, utilize it; recycled wastewater is for emergencies.

BTW, the Orange County Water District project is totally different from the PWM project: 1. it only recycles human sewage, 2. it refuses to recycle Ag waste water, and 3. it does not mix two different toxic flows. But most importantly, after treatment, its water is injected into three large basins, then it percolates thru sand, soil, and the Santa Ana river for five years and then flows into the huge Orange county aquifir: from there 29 water districts withdraw water for potable purposes. Compare that process to the PWM process: it treats the mixture of human and Ag waste and hopes to inject it directly into the Seaside basin and then to Cal Am. There is no measurable benefit to injecting the water into the basin, it could be injected directly into Cal Am wells with the same health risks. But PWM says time in the basin allows it to test for contaminants and if contamination razes thru the basin, it will stop the process. If the mix was injected into a Cal Am test well, that would reveal the contamination w/o contaminating the basin. So placing the mix in the basin is simply a ruse, so phony experts like Nellor can say "hey, PWM is like the Orange county project." John M. Moore

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To: <jmoore052@gmail.com>
Cc: Jim Johnson <jjohnson@montereyherald.com>

John, this is a presentation by the proponents. Many will attend.
Your general question has already been raised, even in our own media material and in Jim Johnson's article. So the subject is not new.
That is one of the reasons for PWN forums-- to get transparency and

awareness, and into public dialogue questions about unknowns and concerns.
The state has standards, review procedures, and permit requirements. All are in play. We'll hear about them too. There has always been the yuck factor, but as more and more populations find it safe, more attention is given it as a safe use. That is the reason why it has moved as far along in California.
I will allow you a question or two on the subject. Depending on the number of questions, and the intensity of some points, there may be more or less discussion of it.
No, you will not be allowed 10 minutes to debate the proponents. I hope I can meet you before it starts. At least I will know who your are.
George Riley

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Date: Fri, Aug 10, 2018 at 5:34 AM
Subject: Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan
To: <jmoore052@gmail.com>
George: I am the John Moore referenced in Mr. Johnson's article in today's Herald. As you are aware, I am attempting to convince the judge in the Watermaster case in the Superior court(Seaside Basin is an adjudicated Basin and controls the safety and adminstration of the Basin), to obtain the services of an expert with medical training to advise him about the safety, or not, of allowing Pure Water Monterey(PWM) to inject its treated mix into the Seaside Basin. PWM has a permit to construct its project, but it is subject to obtaining the consent of all necessary agencies(like the Watermaster),et al.) That mix is unsafe for injection into the Seaside basin.

In the permitting process, PWM never obtained the opinion of an expert about the public safety of the project's product by any of the many medical experts who do the heavy research about recycled water for potable purposes. There are none that would approve the project and that is why they were excluded.

Instead, PWM relied upon Margaret Nellor, of Nellor Environmental out of Texas as its "safety expert." She has a BS and Masters degree in Engineering and worked for years as a sanitation engineer. She has no training about detecting toxins in recycled water for potable purposes. She cites tests for her opinions, but according to the medical experts, those tests are not adequate to determine whether the water is safe for potable purposes. So she is not qualified to testify about the medical safety of the PWM mix. In fact, according to the legislature and the State Water Resources Control Board, proper tests for a facility like PWM will not be available until 2023. And per that

Agency, and the expert reports it has acquired, all of its research has been about "municipal wastewater," not wastewater from other sources, like toxic Agriculture waste.

If the Tuesday forum is going to discuss my objections to the project, which are based on medically trained expert research and discussions of record, I should be given a ten minute opportunity to respond to the other sides presentation.

How can PWM truthfully object to the judge of the Seaside basin obtaining the advice from a medically trained expert about the safety, or not, of the PWM projects treated product? This is our drinking water supply.

I was told by MIIS that this is PWN's show, so it is up to you to give me a fair opportunity to present my facts that show that no medical expert was consulted about the PWM project and it is critical that the judge in the Watermaster case obtain public safety advice from such an expert. Otherwise the CalAm water may cause the hugest "cancer cluster" in Ca. history. John M. Moore(licensed, retired Ca. lawyer, JD Stanford School of Law)

"According to Riley, the forum will also seek to address public questions about recycled water quality regarding the Pure Water Monterey project, including the argument from Pacific Grove resident John Moore that the mix of sewage with "highly toxic" agricultural water has never been attempted before nor has it been adequately tested, and creates an unacceptable risk of contaminating the Seaside basin."

"Moore has also argued that Pure Water Monterey was improperly permitted as an indirect potable reuse project when its product water is actually going to be pumped directly into an existing fresh water basin in a manner more similar to direct potable reuse, which the state does not yet allow."

http://www.montereyherald.com/environment-and-nature/20180809/forum-pure-water-monterey-expansion-as-possible-cal-am-desal-back-up-plan

Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan

By Jim Johnson, Monterey Herald

Updated: 7 hrs ago

Monterey >> With a key decision time approaching for California

American Water's desalination project, local activist group Public Water Now is hosting a forum next week aimed at exploring the potential for an expanded Pure Water Monterey recycled water project that could potentially replace the desal project if it falters or is delayed, perhaps by litigation.

Set for Tuesday, the forum will feature Monterey One Water general manager Paul Sciuto, whose agency is in the midst of building the Pure Water Monterey project and has developed an expansion proposal in response to a request by the California Public Utilities Commission and Planning and Conservation League executive director Jonas Minton, who has been one of the leaders among those calling for exploring an alternative water supply plan based on recycled water expansion in case Cal Am's desal project is delayed with a series of Carmel River cutback order milestones rapidly approaching.

The forum is scheduled for 7 p.m. at the Middlebury Institute of International Studies at Monterey's Irvine Auditorium at 499 Pierce Street.

Other recent Public Water Now forums included one in June airing the concerns of project opponents Marina Coast Water District and the city of Marina and another last month featuring the community of Montara's experience with its public buyout of Cal Am.

While Public Water Now is backing another November general election ballot measure aimed at exploring feasibility of a public buyout of Cal Am's Monterey system, and has conducted dozens of water issue forums over the past several years including several related to a public takeover, the organization's managing director George Riley insisted next week's forum is intended to be purely informational and will not be anti-Cal Am or anti-desal project. Riley said the goal is to inform the public about the potential of more cost-efficient and environmentally friendly recycled water to help meet the Peninsula's water demand, at least for the short term.

"As (CPUC) decision time gets closer and closer, and the (fall) election gets closer and closer, and candidates are asked where they stand on issues — and maybe our ballot measure is part of that, we're trying to get as much information out there as possible, and that's always been our goal," he said.

At the same time, Riley acknowledged the threat of litigation delaying Cal Am's desal project even if it gains CPUC approval next month makes the Pure Water Monterey expansion a hot topic. A CPUC official has promised a key proposed decision on Cal Am's desal project would be issued by Monday and the commission will be scheduled to consider the project at its Sept. 13 meeting.

It's also worth noting that one of the key arguments against a public buyout put forward by Cal Am and its supporters is that such a process

would distract Cal Am from completing the essential desal project, an argument that would appear to be weakened if there were an alternative water supply.

Cal Am spokeswoman Catherine Stedman noted that the desal project environmental review analyzed a range of alternatives including Pure Water Monterey expansion and found desal is a necessary part of the Peninsula's future water supply. Stedman also argued that litigation wouldn't necessarily halt desal project construction.

Tuesday's forum is set to provide an overview of the Pure Water Monterey project, which is already set to peovide 3,500 acre feet of recycled potable water for injection into the Seaside basin for later use, and the potential for expanding that by 2,200 additional acre feet for a total of 5,700 acre feet per year. Combined with Cal Am's right to 3,376 acre feet per year from the Carmel River and the Seaside basin, and other supplemental water sources, the Peninsula could have about enough water to meet its current water demand of around 9,400 acre feet per year even without desal, according to Riley, though he also acknowledged the Peninsula will need a larger water supply than that over time.

Riley noted that the CPUC itself asked for backup options in case Cal Am's desal project is delayed for any reason, including litigation given the staunch opposition from Marina Coast and Marina city amid claims of legal and technical challenges. In response, Monterey One Water submitted its expansion proposal and a group of intervenors in the CPUC's desal project proceeding called for exploring the expansion in a separate phase, but the CPUC never responded to that request.

The same group also submitted a formal request to the state water board to consider alternative milestones for the Carmel River cutback order that focused on recycled water expansion progress while delaying the desal project, and state water board staff announced last month that they were still considering whether to accept the application.

Riley pointed out that Cal Am hasn't signed on to any true backup plan, including the proposed recycled water expansion.

"Cal Am has done nothing to prepare for a litigation delay, which could lead to rationing," he said. "If Cal Am fails, they have no Plan B. Pure Water Monterey is becoming a major part of the solution to our water problems."

Under the current cutback order, Cal Am's desal project must be approved by the CPUC by Sept. 30 or risk losing up to 1,000 acre feet of river water per year until it is approved, and must begin construction by Sept. 30 next year or risk losing the same amount of water.

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questions about recycled water quality regarding the Pure Water Monterey project, including the argument from Pacific Grove resident John Moore that the mix of sewage with "highly toxic" agricultural water has never been attempted before nor has it been adequately tested, and creates an unacceptable risk of contaminating the Seaside basin.

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Jim Johnson can be reached at 831-726-4348.

Sent from my iPad

McGlothlin, Russell

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Sent: Sunday, August 12, 2018 9:02 AM
To: GeorgeTRiley@gmail.com
Subject: Re: Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan
Attachments: Scan_0144.pdf

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From: Luke Coletti <ljc@groknet.net>
Date: Fri, Aug 10, 2018 at 5:34 AM
Subject: Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan
To: <jmoore052@gmail.com>

George: I am the John Moore referenced in Mr. Johnson's article in today's Herald. As you are aware, I am attempting to convince the judge in the Watermaster case in the Superior court(Seaside Basin is an adjudicated Basin and controls the safety and adminstration of the Basin), to obtain the services of an expert with medical training to advise him about the safety, or not, of allowing Pure Water Monterey(PWM) to inject its treated mix into the Seaside Basin. PWM has a permit to construct its project, but it is subject to obtaining the consent of all necessary agencies(like the Watermaster),et al.) That mix is unsafe for injection into the Seaside basin.

In the permitting process, PWM never obtained the opinion of an expert about the public safety of the project's product by any of the many medical experts who do the heavy research about recycled water for potable purposes. There are none that would approve the project and that is why they were excluded.

Instead, PWM relied upon Margaret Nellor, of Nellor Environmental out of Texas as its "safety expert." She has a BS and Masters degree in Engineering and worked for years as a sanitation engineer. She has no training about detecting toxins in recycled water for potable purposes. She cites tests for her opinions, but according to the medical experts, those tests are not adequate to determine whether the water is safe for potable purposes. So she is not qualified to testify about the medical safety of the PWM mix. In fact, according to the legislature and the State Water Resources Control Board, proper tests for a facility like PWM will not be available until 2023. And per that Agency, and the expert reports it has acquired, all of its research has been about "municipal wastewater," not wastewater from other sources, like toxic Agriculture waste.

If the Tuesday forum is going to discuss my objections to the project, which are based on medically trained expert research and discussions of record, I should be given a ten minute opportunity to respond to the other sides presentation.

How can PWM truthfully object to the judge of the Seaside basin obtaining the advice from a medically trained expert about the safety, or not, of the PWM projects treated product? This is our drinking water supply.

I was told by MIIS that this is PWN's show, so it is up to you to give me a fair opportunity to present my facts that show that no medical expert was consulted about the PWM project and it is critical that the

judge in the Watermaster case obtain public safety advice from such an expert. Otherwise the CalAm water may cause the hugest "cancer cluster" in Ca. history. John M. Moore(licensed, retired Ca. lawyer, JD Stanford School of Law)

"According to Riley, the forum will also seek to address public questions about recycled water quality regarding the Pure Water Monterey project, including the argument from Pacific Grove resident John Moore that the mix of sewage with "highly toxic" agricultural water has never been attempted before nor has it been adequately tested, and creates an unacceptable risk of contaminating the Seaside basin."

"Moore has also argued that Pure Water Monterey was improperly permitted as an indirect potable reuse project when its product water is actually going to be pumped directly into an existing fresh water basin in a manner more similar to direct potable reuse, which the state does not yet allow."

http://www.montereyherald.com/environment-and-nature/20180809/forum-pure-water-monterey-expansion-as-possible-cal-am-desal-back-up-plan

Forum: Pure Water Monterey expansion as possible Cal Am desal back-up plan

By Jim Johnson, Monterey Herald

Updated: 7 hrs ago

Monterey >> With a key decision time approaching for California American Water's desalination project, local activist group Public Water Now is hosting a forum next week aimed at exploring the potential for an expanded Pure Water Monterey recycled water project that could potentially replace the desal project if it falters or is delayed, perhaps by litigation.

Set for Tuesday, the forum will feature Monterey One Water general manager Paul Sciuto, whose agency is in the midst of building the Pure Water Monterey project and has developed an expansion proposal in response to a request by the California Public Utilities Commission and Planning and Conservation League executive director Jonas Minton, who has been one of the leaders among those calling for exploring an alternative water supply plan based on recycled water expansion in case Cal Am's desal project is delayed with a series of Carmel River cutback order milestones rapidly approaching.

The forum is scheduled for 7 p.m. at the Middlebury Institute of

International Studies at Monterey's Irvine Auditorium at 499 Pierce Street.

Other recent Public Water Now forums included one in June airing the concerns of project opponents Marina Coast Water District and the city of Marina and another last month featuring the community of Montara's experience with its public buyout of Cal Am.

While Public Water Now is backing another November general election ballot measure aimed at exploring feasibility of a public buyout of Cal Am's Monterey system, and has conducted dozens of water issue forums over the past several years including several related to a public takeover, the organization's managing director George Riley insisted next week's forum is intended to be purely informational and will not be anti-Cal Am or anti-desal project. Riley said the goal is to inform the public about the potential of more cost-efficient and environmentally friendly recycled water to help meet the Peninsula's water demand, at least for the short term.

"As (CPUC) decision time gets closer and closer, and the (fall) election gets closer and closer, and candidates are asked where they stand on issues — and maybe our ballot measure is part of that, we're trying to get as much information out there as possible, and that's always been our goal," he said.

At the same time, Riley acknowledged the threat of litigation delaying Cal Am's desal project even if it gains CPUC approval next month makes the Pure Water Monterey expansion a hot topic. A CPUC official has promised a key proposed decision on Cal Am's desal project would be issued by Monday and the commission will be scheduled to consider the project at its Sept. 13 meeting.

It's also worth noting that one of the key arguments against a public buyout put forward by Cal Am and its supporters is that such a process would distract Cal Am from completing the essential desal project, an argument that would appear to be weakened if there were an alternative water supply.

Cal Am spokeswoman Catherine Stedman noted that the desal project environmental review analyzed a range of alternatives including Pure Water Monterey expansion and found desal is a necessary part of the Peninsula's future water supply. Stedman also argued that litigation wouldn't necessarily halt desal project construction.

Tuesday's forum is set to provide an overview of the Pure Water Monterey project, which is already set to provide 3,500 acre feet of recycled potable water for injection into the Seaside basin for later use, and the potential for expanding that by 2,200 additional acre feet for a total of 5,700 acre feet per year. Combined with Cal Am's right to 3,376 acre feet per year from the Carmel River and the Seaside basin, and other supplemental water sources, the Peninsula

could have about enough water to meet its current water demand of around 9,400 acre feet per year even without desal, according to Riley, though he also acknowledged the Peninsula will need a larger water supply than that over time.

Riley noted that the CPUC itself asked for backup options in case Cal Am's desal project is delayed for any reason, including litigation given the staunch opposition from Marina Coast and Marina city amid claims of legal and technical challenges. In response, Monterey One Water submitted its expansion proposal and a group of intervenors in the CPUC's desal project proceeding called for exploring the expansion in a separate phase, but the CPUC never responded to that request.

The same group also submitted a formal request to the state water board to consider alternative milestones for the Carmel River cutback order that focused on recycled water expansion progress while delaying the desal project, and state water board staff announced last month that they were still considering whether to accept the application.

Riley pointed out that Cal Am hasn't signed on to any true backup plan, including the proposed recycled water expansion.

"Cal Am has done nothing to prepare for a litigation delay, which could lead to rationing," he said. "If Cal Am fails, they have no Plan B. Pure Water Monterey is becoming a major part of the solution to our water problems."

Under the current cutback order, Cal Am's desal project must be approved by the CPUC by Sept. 30 or risk losing up to 1,000 acre feet of river water per year until it is approved, and must begin construction by Sept. 30 next year or risk losing the same amount of water.

According to Riley, the forum will also seek to address public questions about recycled water quality regarding the Pure Water Monterey project, including the argument from Pacific Grove resident John Moore that the mix of sewage with "highly toxic" agricultural water has never been attempted before nor has it been adequately tested, and creates an unacceptable risk of contaminating the Seaside basin.

Moore has also argued that Pure Water Monterey was improperly permitted as an indirect potable reuse project when its product water is actually going to be pumped directly into an existing fresh water basin in a manner more similar to direct potable reuse, which the state does not yet allow.

Jim Johnson can be reached at 831-726-4348.

Sent from my iPad

McGlothlin, Russell

From: McGlothlin, Russell
Sent: Monday, July 30, 2018 5:52 PM
To: 'John Moore'
Cc: 'Laura Dadiw'; Bob Jaques; Acos, Jena S.; Malone, Caitlin K.
Subject: RE: Record addition

Mr. Moore:

The scans titled 100, 101, 109, and 110, were already included in the materials I sent for your review earlier today. Also, scan 103 appears to be the same as scan 106. Therefore, we will include scan 103, 105, 107, and 108 at the end of the packet of materials I sent earlier. We will not submit duplicates of scans 100, 101, 106, 109, 110.

Russell M. McGlothlin
Brownstein Hyatt Farber Schreck, LLP
1020 State Street
Santa Barbara, CA 93101
805.882.1418 tel
805.453.2955 cell
RMcGlothlin@bhfs.com

-----Original Message-----
From: John Moore [mailto:jmoore052@gmail.com]
Sent: Monday, July 30, 2018 4:35 PM
To: McGlothlin, Russell
Subject: Record addition

Below are the attachments to my Comment letter to the waterboards,
dated June 4, 2018 They should set forth after that comment letter.
Otherwise, the record is accepted. John Moore

Fort Ord Community Advisory Group (FOCAG)
P.O. Box 969
Seaside, CA 93955
Phone: 831-484-6659
Email: focagemail@yahoo.com

The "Fort Ord Community Advisory Group is a public interest group formed to review, comment and advise on the remediation (cleanup) of the Fort Ord Army Base, Superfund Site, to ensure that human health, safety and the environment are protected to the greatest extent possible." - Mission Statement.

Monterey Regional Water Pollution Control Agency (MRWPCA)
ATTN: Bob Holden
5 Harris Court, Bldg D
Monterey, CA 93940
Via E-mail: GWR@mrwcpa.com, hard copy to follow via U.S. Mail

Re: Notice of Preparation, Scoping Comments
Monterey Peninsula Groundwater Replenishment Project Environmental Impact Report

July 2, 2013

Dear Bob Holden,

The Fort Ord Community Advisory Group (FOCAG) offers the following comments on the scope of environmental issues. The scope should include existing hazards to drinking water and potential increasing hazards to the drinking water supply due to the migration and leaching of toxic chemicals from former Army training ranges. These would include proposed ground disturbing activities including a horse park. The Seaside Aquifer lies directly beneath the Army Training Ranges, known as Site #39 of former Fort Ord. This area includes the area known as Parker Flats that had, among other uses, Army tank training areas. S-1

Fort Ord is a National Superfund Site, first put on the National Superfund Priority List because of discovered contamination of area groundwater. S-2

There have been multiple issues with the Upper 180, the Lower 180, and the 400-foot aquifers beneath areas of former Fort Ord. Site #39, perhaps the largest munitions impact/training area in the country, sits over the Seaside Groundwater Basin. This should be of concern to MRWPCA and others for the possibility of leaching and migration of chemicals into underground aquifers.

S-2 cont

It is understood residual munitions chemicals from 77-years of munitions use, remain in Fort Ord training areas, including Site 39. The cleanup thus far, has concentrated on remaining unexploded munitions, but failed to identify many munitions constituents even though numerous munitions chemistry books were and are readily available. How can the extent of contamination be known unless all known munitions constituents are looked for? The cleanup has used a sampling rationale of looking for a few constituents but only reporting levels above a certain threshold. There potentially are hundreds of chemicals below threshold levels. For example, hypothetically, if there are two hundred chemicals each at 2 ppm, well below the reporting level, there potentially could be a toxic chemical brew of 200-400 ppm. Could the cumulative, low levels of chemicals potentially be a health hazard? Are the human health risks known for this level of exposure? What are the synergistic effects of munitions chemicals and pesticides on organisms? Are there studies available on the effects of low-level exposure to these chemicals?

Hundreds of munitions chemicals and pesticides at very low levels may be a potential toxic brew creating a health and safety hazard in the underground water aquifers. The cleanup has failed to make the public aware of the actual levels of munitions and pesticide contaminates throughout training areas.

a) What might be the justification for the cleanup failing to identify all the munitions and pesticide chemicals in Tables 3,4,5, and 6? (See Attachment 2, Tables 1-7). The Army BRAC has been asked the following questions:

b) Because the Army kept abysmal records of training ranges, training areas and specific activities, what is the justification for failing to look for all munitions chemicals and pesticides in all training areas, including Site #39?

S-3

c) What is the justification for the cleanup failing to include all the munitions and pesticide chemicals identified in Attachment 2, Tables 3,4,5, and 6?

d) What is the extent of out-gassing from munitions and pesticide chemicals

in former training areas?
e) What is the justification for failing to report the actual levels of munitions and pesticide chemicals in all training areas? S-3 cont

On 3-24-10 (fortordcleanup.com, Document BW-2532), and 2-7-11 (fortordcleanup.com, Document BW-2557), the FOCAG raised questions regarding pesticide use at Fort Ord and in training areas. The 2-7-11 FOCAG letter specifically addresses Army's failure to thoroughly investigate pesticides in training areas. Despite Army's claim that it has thoroughly investigated pesticides in training areas, our review of the cited cleanup documents did not support the Army's claim. The only sampling we have found for pesticides in the Parker Flats and Site 39 training areas was for a total of 4 sample locations that only looked for 8 organochlorine pesticides.

It is our understanding Army BRAC remains responsible for identifying and sampling for chemicals potentially used in training areas, including Site 39. However, the chemicals being looked for in former Army training sites is woefully inadequate. The FOCAG includes, with this letter, 7 Tables of munitions chemicals and pesticides potentially found in former Fort Ord including a list of Training Areas and the chemicals actually being looked for in. (See attachment 2, Tables 1-7) S-4

There are several hundred chemicals potentially leaching out of ordnance into the ground as well as residual chemicals from decades of weapons/ordnance training and pyrotechnics. Herbicides were used to keep vegetation down and minimize threats of wildfires from munitions training exercises. Attached are 6 Tables identifying munitions chemicals and pesticides used in training areas include Table 1, is the Fort Ord Cleanup 1994 list of potential Training Range chemicals. Table 2 is the Fort Ord Cleanup 2003 Sampling and Analysis list of potential Training Range chemicals. Tables 3, and 4 are lists of munitions constituents found in munitions chemistry books, many of which the cleanup has not included in its list(s). Tables 5, and 6 are lists of pesticides; known and suspected as being used at Fort Ord. Particularly alarming is Table 5 that identifies 23 munitions chemicals also known to be pesticides. This may explain why some training areas are virtually devoid of insects and birds. Not only has

Water Boards

State Water Resources Control Board
Division of Drinking Water

November 7, 2016

John M. Robertson, Executive Officer
Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

Dear Mr. Robertson

Final Engineering Report for the Pure Water Monterey Groundwater Replenishment Project (2790002-706)

This letter transmits the State Water Resources Control Board, Division of Drinking Water (DDW) acceptance of the Final Engineering Report (Final Report) for the Pure Water Monterey Groundwater Replenishment Project (Project) dated 21 October 2016. Monterey Regional Water Pollution Control Agency (MRWPCA) held a public hearing on August 22, 2016. Fifteen attendees provided oral comments and 10 submitted comment cards during the hearing. An additional 8 comment letters were received by the close of public comment period. MRWPCA provided a summary of comment responses, a copy of comments received, and a revision to the Draft Final Engineering Report based on the public comments received.

DDW recommends the Central Coast Regional Water Quality Control Board (RWQCB) include the following conditions in the permit as DDW Requirements:

1. The Pure Water Monterey Groundwater Replenishment Project (Project) shall comply with Article 5.2 – Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application, Sections 60320.200 through 60320.228 of the Title 22, California Code of Regulations.
2. The Project's advanced water treatment facility (AWTF) shall conduct startup and commissioning testing that meets the requirement in §60320.201. Advanced Treatment Criteria. A test protocol must be submitted for approval prior to commencement of testing.
3. The Project AWTF shall be operated to meet the requirements in §60320.122. Operation Optimization and Plan.
4. Per §60320.122. Operation Optimization Plan, prior to operation, MRWPCA shall submit an Operation Optimization Plan for review and approval. At a minimum, the Operation Optimization Plan shall identify and describe the operations, maintenance, analytical methods, monitoring (grab and online) necessary for the Project to meet the requirements and the reporting of monitoring results.

The following is from "The Source" –a magazine by Melbourne Water March 2006 Issue 37.

In Singapore, John Poon oversaw a 3 year study of human health risks and chemical and microbial risks.

He said no single technology is foolproof, and potable reuse is not a silver bullet. It should be considered alongside other water conservation measures and alternative measures.

"When we begin to think about using recycled water for drinking, questions are raised about the longer-term health impacts from unknown contaminants at such extremely low concentrations that we are unaware of them"

He said Singapore had gone to great lengths to try to address these problems.

"New compounds are being invented and discovered every day and understanding the health implications of thousands of chemicals and emerging pathogens is an enormous and ongoing scientific challenge"

A U.S. cancer expert, Professor Steven B. Oppenheimer Ph.D., has warned that drinking recycled water was like playing Russian roulette as there was no way to test if it was safe.

Professor Steven B. Oppenheimer, Director of the Centre for Cancer and Developmental Biology at California State Northbridge University at Los Angeles said,

"It may be fine for years until an unknown agent makes it through the process and kills people. Anytime one deals with medical and industrial wastes in such large quantities, it is likely that such a scenario will eventually materialize."

Professor Oppenheimer has a long list of awards for his cancer research, had numerous papers published on cancer and was instrumental in stopping a project for the city of Los Angeles to top up an aquifer with recycled wastewater.

Professor Oppenheimer said,

> ***"The fact that some communities in the U.S and elsewhere have been drinking reclaimed water does not make it safe. It often takes decades to detect the damage done by such projects that tinker with public health and welfare."***

He said it had taken decades to prove that smoking caused lung cancer and smoking was now regarded as the number one cause of cancer. He said this situation with recycled water was much worse in that many people did not have a choice.

Professor Oppenheimer said while there was probably no solid documented evidence to prove that ingesting recycled water harmed health, one of the most respected research groups in the world, the U.S. National Research Council, which is a branch of the National Academy of Science, had warned against it in its study. Professor Oppenheimer said this was the most definitive report of this subject ever done.

He said,

> ***"The study found that it was highly likely that some compounds would get through, highly likely that those compounds would be toxic and highly likely that nobody would know about it because there were no tests available."***

The National Research Council also warned that just because indirect potable water reuse had been around for decades and studies had been done,

> ***"Negative results from such studies do not prove the safety of the water in question."***

As there are currently no guidelines for drinking recycled water, federal guidelines are currently being fast tracked. Professor Oppenheimer said,

> ***"The world's scientific community does not and will not know all the toxic agents and carcinogens that may be able to make it through the indirect reclaimed water process to drinking water. Also, there is simply no technology to detect them."***

and

In 1996, a Rand Corporation study found that there was an almost 100% (average of 73%) increase in rates of liver cancer in areas using reclaimed water. The authors, however, down play the finding by stating there is no evidence to associate liver cancer with reclaimed water; therefore the liver cancer is most likely explained by other factors. In my opinion, and in the opinion of others who read this statement, it is flawed reasoning. [28]

Dr. Steven Oppenheimer, Augmenting Drinking Water with Reclaimed Water, http://www.beachwoodvoice.com/WaterIssue/augmentingdrinking.htm

Because regulations for safe drinking water were not developed with reclaimed water in mind, they may not be the best standard for testing its quality, the committee said. Reclaimed water may contain sources of contamination that cannot be determined through current testing or treatment processes.

After reviewing the few studies that have examined the health implications of drinking reclaimed water, the committee said that different approaches are needed to test the safety of reclaimed water. Conventional toxicology tests developed by the food and drug industries are not appropriate for evaluating the risks from complex chemical mixtures that can be found in reclaimed water. Alternative studies, such as tests using fish in source water, should be undertaken to provide a broader range of data about possible harmful

McGlothlin, Russell

From: McGlothlin, Russell
Sent: Monday, July 30, 2018 2:44 PM
To: 'John Moore'
Cc: Bob Jaques; 'Laura Dadiw'; Acos, Jena S.; Malone, Caitlin K.
Subject: RE: John M. Moore's record and Summation to the Seaside Basin Watermaster
Attachments: Moore Correspondence.pdf

Mr. Moore:

I am not certain that I have gathered all information that you would like submitted as the emails I have from you do not precisely correlate with the dates of correspondence stated in your email below. I have attached what I believe are the correspondence to which you are referring. Please (1) review the attachment, and (2) either confirm that this attachment is sufficient or provide me with a scan of all correspondence that you would like submitted (if you provide an updated package for submission, please provide it as a single email attachment with all correspondence in the order you would like submitted). Best regards.

Russell M. McGlothlin
Brownstein Hyatt Farber Schreck, LLP
1020 State Street
Santa Barbara, CA 93101
805.882.1418 tel
805.453.2955 cell
RMcGlothlin@bhfs.com

-----Original Message-----
From: John Moore [mailto:jmoore052@gmail.com]
Sent: Monday, July 30, 2018 11:46 AM
To: McGlothlin, Russell; Bob Jaques; ODWrecycledwater@waterboards.ca.gov; Randy.Barnard@waterboards.ca.gov; Jim Johnson
Subject: John M. Moore's record and Summation to the Seaside Basin Watermaster

To Mr. Mcglothlin:
Concerning my flurry of prior e-mails, some redundant, those that should be filed in the court case are the following: 1. My comment letter to commentletters@waterboards.ca.gov dated June 4,2018 and the Addendum dated June 20, 2018; 2. My e-mail to Bob Jaques to refer to you, dated July 4, 2018; 4.Mrs Wrights e-mail to you and to me dated July 21, 2018. and 4. My e-mail to you incorporating her e-mail dated July 21, 2018.

My final discussion and new evidence:
A. The Watermaster has the power to reject the injection of the PWM water into the Basin, if it reasonably finds that it is a threat to the quality of water in the Basin. California American Water v. City of Seaside 183 Cal App.471 (2010) and authority set fort in that case.

Per that case the court sits as an equity court and may impose reasonable conditions for PWM ijection request.The Permit for the project is conditioned upon obtaining the consent of all affected Agencies. Also see Mr. Jaques letter M to the PWM EIR explaining that the Watermaster will set the conditions before permitting the PWM water into the basin.

B. The legal definition of Recycled Water for potable purposes is limited to Municipal Wastewater.

1. The state legislature has never authorized the recycling of agriculture (AG)wastewater for IPR or DPR uses. The Ca. State Water Resources Board(SWB) has never investigated, nor, adopted regulations permitting IPR or DPR use of recycled AG wastewater, only municipal wastewater.

2. All of the expert studies referenced on the SWB web site define recycled potable water as "municipal wastewater ." See attached scans 129, 130 and 132. On Scan 130, I have underlined a quote from the SWB 2016 433 page comprehensive "Expert Panel Feasibility Report" the most comprehensive report available about recycling for potable purposes, and the basis for proposed legislation and regulations re IPR and DPR in Ca. Talking about water sources, it said: "One such strategy is planned potable reuse , in which highly treated municipal wastewater (i.e., recycled water) is used to augment public water supplies." In scan 132 I have underlined a definition by a scientific group of experts about the safety problems of recycling for potable use. It said: "The current report addresses public health protection, which requires that microbiological pathogens and some chemicals in municipal wastewater(the "source" of recycled water) be attenuated before public reuse and discharge into the environment.

3. There are no studies at the SWB site about recycling AG wastewater for potable uses.

4. As set forth previously, PWM has admitted in writing that there are no existing IPR or DPR projects in Ca. that attempt to recycle AG waste for potable uses. There has never been an EIR on that issue. Is it safe? Nobody Knows.PWM will argue that it has test wells to assure water safety, but that is the rub: per the experts there are not reliable tests for chemical and pathogens to determine if contamination exists. Just yesterday, a city in Michigan announced that the three wells that supply the area with drinking water were contaminated. The wells were infected with plastics 20 times higher than national standards. At least there was a test for that contaminant, for most of them there are none. That is why DPR are illegal in Ca. The Flint contamination caused massive lead poisoning and a vicious outbreak of Legionare's disease, killing and disabling thousands of water users.

6. There are no EIR "s re recycling toxic AG waste for potable purposes. That shows that there are no EIR'S focused on the chemical and biological reaction from mixing the two. State law allows mixing different sources of municipal waste, but not with industrial and AG waste. Show the court.

C. As set forth in the minutes of the Technical Advisory

Committee(TAC)for the Watermaster, the Seaside basin and the polluted Salinas basin are without a physical barrier at certain junctures. If in a flood year, or for other reasons, the Salinas basin could contaminate the seaside basin. There is no contingency plan. Suppose it is undetected for months?

D. In the EIR for PWM the engineer re pipes, equipment etc. was candid, an earthquake in the San Andreas fault(like 1989?) could break up the system. But in the Todd Groundwater report in the EIR about the basin, the affect of an earthquake in the San Andreas fault area of the basin was not discussed. The basin sits under Ft. Ord , a Superfund site that contains hundreds of chemicals that are poisonous. An earthquake could cause the basin to become contaminated. Then what? There are no contingency plans for that event. This issue clearly requires scientific study and an EIR.

D Environmental Buffer.

1,PWM was granted a Permit for an IPR on the premise that the Seaside Basin was an adequate environmental buffer to assure the safety of the water for potable use. Put another way, the SWB is willing to risk the basin so that contamination will show up in test wells if the basin is contaminated by PWM water. If and when that occurs, it will mean that the other water in the basin, the Carmel river water has been contaminated.

2. Because of the SWB cease and desist order, there is no other sufficient source of water for potable use. So not only is the experimental PWM project a threat because of 1, above, but in addition, it threatens our entire water source except for the Carmel river water that now goes directly to a few of its wells.

3. There is no contingency plan for this risk. Will it take months or several years to cleanse the basin. And with what? Who pays?

4. Scan 134 is from the SWB web site. It quotes and relies on the Expert Panel's evaluation of a "barrier" to qualify for IPR's. It requires much more than just two months in the basin. "There must be measurable and significant public health benefits from an environmental buffer for a potable reuse project to qualify as IPR." The only claim by PWM is that time in the basin will allow tests, which like the new Michigan case will shut down the basin. How is that a significant health benefit, particularly when the treated water is from an unproven mix of municipal wastewater and toxic AG waste(see Wright letter).

E. The PWM has no significant health benefit, because unlike the Orange County Water District(OCWD) project there is no percolation distance to cleanse the water.

1. But for the OCWD project, the PWM project could not have even been suggested. Both the OCWD project and the PWM project use advanced treatment of the source water and in the OCWD case that water is injected into three basins. The PWM mix is to be injected into the Seaside basin. The OCWD water then percolates for FIVE Years thru soils and sand and is then diverted to hundreds of wells owned by about thirty different potable water suppliers. The seaside mix must

stay in the basin for at least two months. There is no claim of any cleansing percolation. It is substantially a DPR.

2. It is not authorized. But in addition the PWM water is an illegal mix of municipal and AG wastewater. And let us not forget that in May of this year, the agency run by Mr. Sciuto, which will operate the PWM project leaked about five million gallons of raw sewage into our Bay.

Summary: The PWM project clearly exemplifies the danger inherent when a public agency is in charge of the EIR and permit process for its own project. There was no opposition to the project, because the PR never allowed the unique risks associated with the project to become public. The news agencies are reliant on government notice and advertising money. The two PWM agencies have paid for expensive ads in the local newspapers and they have kept mum about the revolutionary nature of the PWM project. quid pro quo. As the Australian comprehensive study argued, always make water from desalinization before resorting to a high risk recycle project. Since 2009, a local desalinization project has been attempted, but because of political fights before the CPUC, it has become a "perfect storm" of incompetency. I realize that except for Judge Nichols, the members of the Watermaster are tied to the PWM politically. The EIR for PWM is devoid of any analysis by the elite experts who are competent to advise the Basin about the risks inherent in injecting the PWM mix into the basin. I urge the court to hire an expert beholden to him and the basin and not someone tied to the business interests of the PWM project.

I apologize for typos, etc. I am a very poor secretary and do not have a proofreader, so I miss stuff. I don't have the new fancy legal software, etc., but I Try hard.

John M. Moore, retired but licensed lawyer (JD Stanford School of Law 1963)

McGlothlin, Russell

From:	John Moore <jmoore052@gmail.com>
Sent:	Monday, July 30, 2018 11:46 AM
To:	McGlothlin, Russell; Bob Jaques; DDWrecycledwater@waterboards.ca.gov; Randy.Barnard@waterboards.ca.gov; Jim Johnson
Subject:	John M. Moore's record and Summation to the Seaside Basin Watermaster
Attachments:	Scan_0129.pdf; Scan_0130.pdf; Scan_0132.pdf; Scan_0134.pdf

To Mr. Mcglothlin:
Concerning my flurry of prior e-mails, some redundant, those that should be filed in the court case are the following: 1. My comment letter to commentletters@waterboards.ca.gov dated June 4,2018 and the Addendum dated June 20, 2018; 2. My e-mail to Bob Jaques to refer to you, dated July 4, 2018; 4.Mrs Wrights e-mail to you and to me dated July 21, 2018. and 4. My e-mail to you incorporating her e-mail dated July 21, 2018.

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A. The Watermaster has the power to reject the injection of the PWM water into the Basin, if it reasonably finds that it is a threat to the quality of water in the Basin. California American Water v. City of Seaside 183 Cal App.471 (2010) and authority set fort in that case. Per that case the court sits as an equity court and may impose reasonable conditions for PWM ijection request.The Permit for the project is conditioned upon obtaining the consent of all affected Agencies. Also see Mr. Jaques letter M to the PWM EIR explaining that the Watermaster will set the conditions before permitting the PWM water into the basin.

B. The legal definition of Recycled Water for potable purposes is limited to Municipal Wastewater.

1. The state legislature has never authorized the recycling of agriculture (AG)wastewater for IPR or DPR uses. The Ca. State Water Resources Board(SWB) has never investigated, nor, adopted regulations permitting IPR or DPR use of recycled AG wastewater, only municipal wastewater.

2. All of the expert studies referenced on the SWB web site define recycled potable water as "municipal wastewater ." See attached scans 129, 130 and 132. On Scan 130, I have underlined a quote from the SWB 2016 433 page comprehensive "Expert Panel Feasibility Report" the most comprehensive report available about recycling for potable purposes, and the basis for proposed legislation and regulations re IPR and DPR in Ca. Talking about water sources, it said: "One such strategy is planned potable reuse , in which highly treated municipal wastewater (i.e., recycled water) is used to augment public water supplies." In scan 132 I have underlined a definition by a scientific group of experts about the safety problems of recycling for potable use. It said: "The current report addresses public health protection, which requires that microbiological pathogens and some

chemicals in municipal wastewater(the "source" of recycled water) be attenuated before public reuse and discharge into the environment.

3. There are no studies at the SWB site about recycling AG wastewater for potable uses.

4. As set forth previously, PWM has admitted in writing that there are no existing IPR or DPR projects in Ca. that attempt to recycle AG waste for potable uses. There has never been an EIR on that issue. Is it safe? Nobody Knows.PWM will argue that it has test wells to assure water safety, but that is the rub: per the experts there are not reliable tests for chemical and pathogens to determine if contamination exists. Just yesterday, a city in Michigan announced that the three wells that supply the area with drinking water were contaminated. The wells were infected with plastics 20 times higher than national standards. At least there was a test for that contaminant, for most of them there are none. That is why DPR are illegal in Ca. The Flint contamination caused massive lead poisoning and a vicious outbreak of Legionare's disease, killing and disabling thousands of water users.

6. There are no EIR "s re recycling toxic AG waste for potable purposes. That shows that there are no EIR'S focused on the chemical and biological reaction from mixing the two. State law allows mixing different sources of municipal waste, but not with industrial and AG waste. Show the court.

C. As set forth in the minutes of the Technical Advisory Committee(TAC)for the Watermaster, the Seaside basin and the polluted Salinas basin are without a physical barrier at certain junctures. If in a flood year, or for other reasons, the Salinas basin could contaminate the seaside basin. There is no contingency plan. Suppose it is undetected for months?

D. In the EIR for PWM the engineer re pipes, equipment etc. was candid, an earthquake in the San Andreas fault(like 1989?) could break up the system. But in the Todd Groundwater report in the EIR about the basin, the affect of an earthquake in the San Andreas fault area of the basin was not discussed. The basin sits under Ft. Ord , a Superfund site that contains hundreds of chemicals that are poisonous. An earthquake could cause the basin to become contaminated. Then what? There are no contingency plans for that event. This issue clearly requires scientific study and an EIR.

D Environmental Buffer.

1,PWM was granted a Permit for an IPR on the premise that the Seaside Basin was an adequate environmental buffer to assure the safety of the water for potable use. Put another way, the SWB is willing to risk the basin so that contamination will show up in test wells if the basin is contaminated by PWM water. If and when that occurs, it will mean that the other water in the basin, the Carmel river water has been contaminated.

2. Because of the SWB cease and desist order, there is no other sufficient source of water for potable use. So not only is the experimental PWM project a threat because of 1, above, but in

addition, it threatens our entire water source except for the Carmel river water that now goes directly to a few of its wells.

3. There is no contingency plan for this risk. Will it take months or several years to cleanse the basin. And with what? Who pays?

4. Scan 134 is from the SWB web site. It quotes and relies on the Expert Panel's evaluation of a "barrier" to qualify for IPR's. It requires much more than just two months in the basin. "There must be measurable and significant public health benefits from an environmental buffer for a potable reuse project to qualify as IPR." The only claim by PWM is that time in the basin will allow tests, which like the new Michigan case will shut down the basin. How is that a significant health benefit, particularly when the treated water is from an unproven mix of municipal wastewater and toxic AG waste(see Wright letter).

E. The PWM has no significant health benefit, because unlike the Orange County Water District(OCWD) project there is no percolation distance to cleanse the water.

1. But for the OCWD project, the PWM project could not have even been suggested. Both the OCWD project and the PWM project use advanced treatment of the source water and in the OCWD case that water is injected into three basins. The PWM mix is to be injected into the Seaside basin. The OCWD water then percolates for FIVE Years thru soils and sand and is then diverted to hundreds of wells owned by about thirty different potable water suppliers. The seaside mix must stay in the basin for at least two months. There is no claim of any cleansing percolation. It is substantially a DPR.

2. It is not authorized. But in addition the PWM water is an illegal mix of municipal and AG wastewater. And let us not forget that in May of this year, the agency run by Mr. Sciuto, which will operate the PWM project leaked about five million gallons of raw sewage into our Bay.

Summary: The PWM project clearly exemplifies the danger inherent when a public agency is in charge of the EIR and permit process for its own project. There was no opposition to the project, because the PR never allowed the unique risks associated with the project to become public. The news agencies are reliant on government notice and advertising money. The two PWM agencies have paid for expensive ads in the local newspapers and they have kept mum about the revolutionary nature of the PWM project. quid pro quo. As the Australian comprehensive study argued, always make water from desalinization before resorting to a high risk recycle project. Since 2009, a local desalinization project has been attempted, but because of political fights before the CPUC, it has become a "perfect storm" of incompetency. I realize that except for Judge Nichols, the members of the Watermaster are tied to the PWM politically. The EIR for PWM is devoid of any analysis by the elite experts who are competent to advise the Basin about the risks inherent in injecting the PWM mix into the basin. I urge the court to hire an expert beholden to him and the basin and not someone tied to the business interests of the PWM project.

I apologize for typos, etc. I am a very poor secretary and do not have a proofreader, so I miss stuff. I don't have the new fancy legal software, etc., but I Try hard.

John M. Moore, retired but licensed lawyer (JD Stanford School of Law 1963)

CHAPTER 1: INTRODUCTION

- Brief history of water reuse in California.
- Difference between planned and unplanned potable reuse.
- Difference between indirect potable reuse and direct potable reuse (including the environmental buffer).
- Critical public health considerations for direct potable reuse.
- Purpose and organization of this report.

Potable water supplies are derived from a variety of sources, including local and imported surface water, groundwater, desalinated brackish water and seawater, and recycled water. As a result of population growth, urbanization (especially in coastal areas), droughts, and climate change, public water supplies in some parts of the United States are becoming stressed, and the opportunity to develop new sources of water supply from groundwater or surface water is becoming more difficult, if not impossible. Although conservation can reduce per capita water demand, the remaining supplies most likely will be insufficient to meet overall water needs. As a consequence, alternative strategies are needed to help meet future water demands and develop more sustainable water supplies (Tchobanoglous et al., 2015). One such strategy is planned potable reuse, in which highly treated municipal wastewater (i.e., recycled water) is used to augment public water supplies.

The practice of indirect potable reuse (IPR) involves using recycled water to (1) recharge groundwater aquifers via surface spreading or direct injection (i.e., groundwater replenishment), or (2) augment a stream or reservoir that serves as a source of drinking water (i.e., surface water augmentation [SWA]). For perspective, in 2010, approximately 1.35 million cubic meters per day (m^3/d) (or 355 million gallons per day (mgd)) of recycled water was used for IPR nationwide, which represents less than 1 percent of all municipal wastewater effluents generated in the United States; however, for communities practicing IPR, the average contribution of recycled water to their drinking water supplies can be as high as 30 percent, with some consumers receiving drinking water in which more than 50 percent originated from recycled water (Drewes and Khan, 2011).

An alternative option to IPR is direct potable reuse (DPR), in which recycled water is added directly into a drinking water distribution system or into a raw water supply immediately upstream of a drinking water treatment facility (DWTF). The feasibility of developing uniform water recycling criteria for DPR in the State of California is the subject of this report.

1.1 Overview of Water Reuse in California

Water supplies in the State of California tend to rely on runoff associated with melting snowpack. Over the next few decades, supplies are likely to diminish because climate change is predicted to cause more precipitation to fall as rain rather than as snow, with runoff occurring earlier in the season (Harris-Lovett and Sedlak, 2015). In response to the challenges of climate change and population growth, the California State Water Resources Control Board (State Water Board) has adopted a water recycling policy that declared independence from relying on the vagaries of annual precipitation and has moved

outcomes. Within the context of potable reuse, local public health partners should be informed when a DPR project is being considered. Points of contact should be identified and available surveillance data sources should be reviewed. In addition, processes for regular engagement, information sharing, and notification should be established with an emphasis on tracking, reporting, and communicating notifiable acute (primarily) waterborne diseases. The State Water Board also should work with DPR project sponsors and local health agencies to consider the feasibility of enhanced public health surveillance for communities with DPR systems. Such efforts may include syndromic surveillance, sentinel surveillance, or serological surveys for waterborne infections. See **Chapter 3 (Recommendations #3-1** and **3-2)**.

- All current and proposed IPR regulations in the State of California include the use of a regulatory-defined environmental buffer; however, there are likely to be potential potable reuse projects where an environmental buffer is available, but does not meet the proposed operational and performance criteria for an IPR project using surface water augmentation. Notably, the proposed criteria for IPR projects using surface water augmentation do not include an alternatives clause (NWRI, 2015b) like that in the regulations for IPR using groundwater replenishment (CCR, 2015), where a project may be allowed to use an alternative to ***any*** requirement if it "assures at least the same level of protection to public health." Consequently, an IPR project for SWA using an environmental buffer that does not meet regulatory criteria would be defined as DPR. This situation creates a regulatory "Gap" between IPR projects with smaller environmental buffers and DPR projects with no environmental buffers. Based on a previous analysis of the environmental buffer conducted by the Expert Panel during the review of proposed criteria for IPR using SWA (NWRI, 2015a,b), the Expert Panel considers IPR projects with a theoretical hydraulic retention time of <2 months in the reservoir to be a DPR project (i.e., the Gap covers IPR-SWA projects with hydraulic retention times of ≥2 months and <4 months). See **Chapter 9 (Sections 9.1.2** and **9.3.2)**. In effect, the Gap represents a transition between the currently proposed criteria for IPR using SWA and DPR. Given the above considerations, the Expert Panel supports the following approach by the State Water Board:

  a) Incorporate an alternatives clause that covers Gap projects into the proposed criteria for IPR using surface water augmentation.

  b) Require that agencies proposing potable reuse projects failing to meet the criteria for IPR using surface water augmentation demonstrate – through hydrodynamic and public health risk modeling – public health protection equivalent to that achieved by full compliance with criteria.

  c) Establish a consistent framework as part of the established regulatory process for preparing project-related engineering reports and subsequently reviewing and permitting Gap projects.

  d) Conduct a peer review of several Gap project proposals and engineering reports to assist in the establishment of a consistent technical basis for Gap projects.

  e) Encourage the State Water Board to consider the potential benefits of environmental buffers, irrespective of size, as a means of taking advantage of temperature equalization, storage, and peak attenuation.

Individual treatment processes, both natural and engineered, are validated for a specific LRV in a manner that assures they will be achieving the credited LRV reliably. A treatment train LRV is the sum of the individual process LRVs for the train.

5.1.2 *Potable Reuse Form Influences Pathogen Control Regulation Structure*

Differences among the various forms of potable reuse require criteria customized to the threats and health protective features of each.

IPR is the planned augmentation of a surface or groundwater supply with treated municipal wastewater. Recycled water treatment is required to reduce contaminants to the acceptable levels for a similar conventional source. A significant fraction of the pathogen LRV may occur through natural treatment in the environmental buffer. Critical circumstances of the recycled water passage through the environment are specified in regulation to assure that significant contaminant attenuation is provided and/or that there is time to identify and react to a pre-discharge treatment failure. A groundwater replenishment IPR project must meet 2014's groundwater replenishment regulations to ensure protection of public health, as well as any additional permit requirements and applicable Waste Discharge Requirements necessary to protect the groundwater basin. A surface water augmentation project must meet the recently adopted surface water augmentation regulations to ensure protection of public health, as well as any additional permit requirements and applicable Waste Discharge Requirements necessary to protect the lake (i.e., reservoir).

DPR is the use of recycled water as a source of drinking water where the influence of an environmental buffer is small, minimal, or absent. Engineered treatment, and the accompanying monitoring and controls, must be sufficient to consistently make safe drinking water out of municipal wastewater. DPR projects might be regulated with both Waste Discharge

Monitoring Strategies for Constituents of Emerging Concern (CECs) in Recycled Water

Recommendations of a Science Advisory Panel

Jörg E. Drewes
Paul Anderson
Nancy Denslow
Walter Jakubowski
Adam Olivieri
Daniel Schlenk
Shane Snyder

Southern California Coastal Water Research Project

SCCWRP Technical Report 1032

Executive Summary

With its large population and regionally arid climate, the State of California has a long history of water reclamation and reuse. Now faced with an ever-increasing population as well as diminishing new sources, water reclamation, recycling, and reuse are integral components of water resource planning and management. As evidenced by adoption of the Policy for Water Quality Control for Recycled Water (Recycled Water Policy) in 2009, recycled water is and will continue to be an important water resource across the State. Maintaining a water quality that is protective of both human health and the environment is paramount to the success of the Policy. The current report addresses public health protection, which requires that microbiological pathogens and some chemicals in municipal wastewater (the "source" of recycled water) be attenuated before potable reuse and discharge to the environment. The chemical universe is evolving at a rate that is challenging for traditional risk assessment paradigms, particularly evaluating interactions between complex mixtures of chemicals and transformation products formed during treatment and environmental processes. In order to remain vigilant in comprehensive evaluation of constituents of emerging concern (CECs), more modern water quality characterization tools -- both analytical and bioanalytical -- that may not yet be fully standardized or validated will be needed. *Thus, water recycling practices require appropriate treatment barriers and monitoring strategies to minimize exposure to a wide range of CECs that may be harmful to human health.*

Expanding the Charge to the Science Advisory Panel

In their Policy, the California State Water Resources Control Board (State Water Board) sought to incorporate the most current scientific knowledge on CECs. In response, a Science Advisory Panel was formed in 2009 to address a series of questions.

- What are the appropriate constituents to be monitored in recycled water and what are the applicable monitoring methods and detection limits?
- What human-relevant toxicological information is available for these constituents?
- Would the constituent list change based on the level of treatment? If so, how?
- What are the possible indicators (i.e., surrogates) that represent a suite of CECs?
- What levels of CEC should trigger enhanced monitoring in recycled water, groundwater, or surface water?

The 2010 Panel produced several products to guide the State Water Board's approach to managing CECs in recycled water. First, the Panel developed a risk-based framework for prioritizing and selecting CECs for recycled water monitoring programs (Anderson et al., 2010). The framework was then used to develop a list of monitoring parameters, including four health-relevant and four performance-based ("indicator") CECs to demonstrate a consistent capacity for reduction of CECs by recycled water treatment processes. This initial list of eight CECs, representing multiple source classes (e.g., pharmaceuticals, personal care products, food additives, and hormones), were identified for groundwater recharge (GWR) potable reuse applications. In contrast, surrogate parameters (i.e., turbidity, chlorine residual, and total coliform bacteria) were deemed sufficient for monitoring of non-potable recycled water quality used for landscape irrigation. In addition, the Panel highlighted the need for new monitoring methods, including bioanalytical tools, and developed guidance for interpreting and responding to monitoring results.

As also specified in the Policy, periodic updates to CEC monitoring recommendations are needed to keep the data collected relevant and to incorporate new scientific information. The

4. Environmental Buffer

The existence of an environmental buffer, passage of recycled water through an aquifer or reservoir, is the key difference between indirect potable reuse (IPR) and direct potable reuse (DPR). Although there can be numerous unquantifiable benefits of an environmental buffer, there must be measurable and significant public health benefits from an environmental buffer for a potable reuse project to qualify as IPR.

When the environmental buffer is inadequate or not present, the loss of the environmental buffer must be addressed in order to maintain an equivalent level of public health protection. The SB-918 Expert Panel suggests that the benefits of the environmental buffer can be substituted with enhanced reliability provided by mechanical systems and treatment plant performance.

4.1. Groundwater Benefits

The environmental buffer for a groundwater replenishment IPR project must provide a minimum 2-month time of travel underground before the water is suitable for potable consumption. This minimum time of travel is deemed sufficient for a public water system to detect, recognize, and respond to potential treatment failures and/or water quality problems, such that water used for potable consumption is safe to drink at all times. Additionally, groundwater replenishment IPR projects provides some removal of organic compounds and pathogen reduction.

4.2. Reservoir Benefits

The environmental buffer for a surface water augmentation IPR project must provide adequate mixing capacity to address a short-term failure of treatment of up to 24 hours. In addition, the theoretical retention time of the augmented reservoir must be no less than 60 days, which establishes a simple operational criterion as a means of assuring the reservoir would be

McGlothlin, Russell

From:	John Moore <jmoore052@gmail.com>
Sent:	Wednesday, July 04, 2018 12:09 PM
To:	McGlothlin, Russell; DDWrecycledwater@waterboards.ca.gov; Randy.Barnard@waterboards.ca.gov; Bob Jaques
Subject:	Hearing before Hon. Leslie C. Nichols, Judge (See attachment 112 for case name and court)
Attachments:	Scan_0112.pdf; Scan_0101.pdf; Scan_0113.pdf; Scan_0114.pdf; Scan_0100.pdf; Scan_0109.pdf

et To: Judge Nichols, Case No. M66343
My name is John M. Moore. I live at 836 2d st. Pacific Grove Ca. 93950 Tel. 831-655-4540. I am a licensed but retired Ca. lawyer, but I make this request in my capacity as a citizen and a rate-payer in the Cal Am Water district.

I will be a recipient of water sold to Cal Am by Pure Water Monterey, a unique recycling project that will use state of the art technology in an attempt to recycle some of the most toxic source waters in the state. I am not an expert in the art of recycling toxic source water into potable water, but like many seasoned trial attorneys and judges, I am expert about judging the quality of experts for varied scientific endeavors. Regarding the PWM project, not a single qualified expert has produced evidence, or, a qualified expert opinion, that the finished product of PWM recycled water is safe to be injected into the Seaside Basin(as planned), a potable water repository.

PWM claims that it meets the tests mandated by its permit, but what those tests must be to qualify for injection into the Seaside Basin is admittedly an open question. Per attachment 101, at para 8 and 10, Mr. Jaques, the Watermaster technical expert sent that letter to the EIR for the PWM project. At para 8, he warned that two of the source water were highly contaminated, and then in para 10, warned that the water would need to pass the Watermaster tests before injection into the Basin. In the EIR and the permit, there was no objection to that condition.

So why do I contend that the water is not safe for injection into the Seaside Basin? The permit for the project specified that the permit assumed that the PWM project was/is an Indirect Potable Water Reuse(like the Orange Water District which treats the water ,then injects it into a cleansing barrier whereby the water mixes with river water, travels thru soils, sands and aquafirs for five years and then into wells for potable purposes). Saying so, doesn't make it so!

The PWM treated water is intended to be directly injected into the Seaside Basin, but without complying with standards and tests that reasonably assure the safety of the water for injection into the Basin. Mr. Jaques made the same
point in his attached letter, as he said in the last line of para.8 "direct injection into the SGWB, which serves as a potable water supply to the public.

Additional factors are that the Basin contains other potable waters not a product of recycled contaminated sources. The PWM water will be from two sources(which is a first), sits under the old Fort Ord areas that are designated toxic areas, and is located in earthquake zones, including the San Andreas fault.

If you go to the State Water Resources Bd. web page, you will learn that the board is now in the process of adopting regulations for Direct Potable Reuse. Please read the public comments and my comments in

particular.My point: There are currently no state regulation s that permit a Direct Potable Reuse, that is why PWM disguised the project as an IPR. There is one comment about the danger from injecting DPR water into Basins, etc.

So how did PWM disguise the Project as a IPR? It claims that after injection into the Basin, time in the Basin will purify the water like the five year trip of Orange Water District treated waters. The obvious problem, aside from the fact that it will not become purer(unless it pollutes the other water), is that the water must in fact be potable "before" injection into the Basin and it admittedly is not.

So how did PWM and the Department of Drinking Water pull off the phony IPR classification? Per the evidence, they excluded "qualified experts" about the safety tests needed for recycle projects. They relied on the testimony of engineers without training and experience about detecting toxins in source waters, etc. Here's the evidence.

I refer you to attachment 113. It is the Final Report by an elite Science Advisory Panel about "Monitoring Strategies for Chemicals of Emerging Concern(CECs) in Recycled Water." At the second page, the bona fides of the experts are described as "six national experts in the fields of chemistry, biochemistry, toxicology, epidemiology, risk assessment and engineering, with more than 100 years of combined experience investigating CEC issues. Three of the panel are experts in bioassay of recycled water to determine the existence of toxins in source waters and throughout the recycle project. As the report states, without testing the source waters for unknown toxins, it is impossible to frame tests for the final product.

Attachment 114 is the most recent Water Board Advisory Groups summary. The summary practically confesses that bioassays should be utilized with standard testing and then concludes in a harangue that it would be such a bother(delay and cost). I could not identify a single member of the Advisory Group or the Expert panel with the experience similar to the qualifications of the earlier Science Advisory Panel.

Attachment 100 is a "Comment" by three of the six members of the elite 2010 Science Advisory Panel, taking scientific exception to the non-qualified Advisory Report of 2016. The three members totally impeach the report of the non-expert Advisory Group(which does not include a single expert with hands on CEC expertise). The Science Advisory Group advises a toxin discovery testing plan that complements other testing. Failure to heed that advice, imperils the health of the Basin.

The court should know just how radical the PWM project is. Attachment 109 is correspondence from Mr. McCullough of PWM wherein he admits that the PWM project is the "first" ever to attempt to recycle agriculture wastewater for potable use. Then it is also the "first" to ever mix such toxic water with human sewage in a Biblical like attempt to create potable water. The 2018 proposed DPR regulations fail to even consider such a recycle use, let alone the dynamics of mixing the two sources. So the PWM project is experimental, beyond the scope even of the proposed DPR regs.

My purpose in contacting the court is not just to apprise it of the problem of "unknown unknowns" in the toxic mix, but to propose action on the courts part:
1. The court should be aware that all of the parties to this litigation are pro-PWM and will oppose any interference by the court to protect the Basin;
2. My problem in this presentation is that I am not in a position to engage a "qualified expert" about public health tests for recycled water of this unique toxic mix. If able, I would have engaged one of the three that wrote attachment 100;
3 So, I implore the court to engage a special master or masters to specifically advise the court about the public health safety, or not, of injecting PWM water into the Basin. It should engage a qualified expert with the qualifications of the Science Advisory Group and also an expert nominated by PWM, and then decide what additional steps(tests, procedures)are necessary to protect the Basin.

I assume the Watermaster lawyers will forward this message to you. I ask for their confirmation; Otherwise, I will send it to the court by mail. I tried to explain it to a clerk, but gave up.

I note the courts interest in public participation in the Watermaster"s duties. I had previously filed a CPRA request of the Watermaster, but it was ignored w/o comment. I then filed a CPRA with PWM re the tests to be performed before water was injected into the basin, and it replied that the tests were in a design phase. But, the Permit implies that the tests will be like tests for a IPR and not tests appropriate for the toxic mix in play for the PWM project.

You should expect excited negative reviews from the parties to this case about this report. Please stick to the facts. I have previously sent e-mails to the Watermaster lawyers and you should review those.

In conclusion, I apologize for typos, formatting, etc. I do not have staff and I do not have the physical capability to attend meetings or hearings. This is the conclusion of a couple hundred hours of research.

I truly believe that citizens are entitled to know that its' drinking water is safe. The public is practically unaware of the nature of the project and that is why there has not been a grass roots movement against it. The press has been assiduous in not revealing the health risks of the project to the public. If PWM and Cal Am believe the PWM water will be safe, then it should deliver it directly to the Cal Am wells and not involve the Basin as a Scapegoat. John M. Moore

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Attorneys for Seaside Groundwater Basin Watermaster

EXEMPT FROM FEES

SUPERIOR COURT OF THE STATE OF CALIFORNIA

FOR THE COUNTY OF MONTEREY

CALIFORNIA AMERICAN WATER,

Plaintiff,

v.

CITY OF SEASIDE, et al.,

Defendants.

MONTEREY PENINSULA WATER MANAGEMENT DISTRICT,

Intervenor.

MONTEREY COUNTY WATER RESOURCES AGENCY,

Intervenor.

AND RELATED CROSS-ACTIONS.

Case No. M66343

Assigned for All Purposes to the Honorable Leslie C. Nichols

SEASIDE GROUNDWATER BASIN WATERMASTER'S CASE MANAGEMENT STATEMENT

Action Filed: August 14, 2003
Trial Date: December 13, 2005

Post-Judgment Case Management Conference: March 17, 2017

Letter M

Seaside Basin Watermaster
2600 Garden Road
Suite 228
Monterey, CA 93940

July 1, 2013

Mr. Bob Holden
Monterey Regional Water Pollution Control Agency
5 Harris Court, Building D
Monterey, CA 93940

Subject: Notice of Preparation of Environmental Impact Report for the Monterey Peninsula Groundwater Replenishment Project, May 30, 2013

Dear Mr. Holden:

The Seaside Basin Watermaster submits the following comments on the Subject document:

1. There are numerous statements in the NOP that the GWR Project will "replenish" the Seaside Groundwater Basin (SGWB). These occur on pages 2, 9, 10, 16, and 17. As noted on page 10, since all of the GWR Project water currently being contemplated for injection into the SGWB will be pumped back out by existing municipal supply extraction wells not long after it has been injected, the GWR Project water will not provide long-term replenishment of the SGWB. The SGWB, as described in the NOP, will simply serve as an interim storage basin for this water. This should be clarified in the EIR. M-1

2. There have been recent discussions with MRWPCA staff regarding the potential for the GWR Project to provide additional water that could truly be beneficial to the SGWB by injecting it and leaving it in the aquifers, rather than pumping it back out. A quantity of 1,000 AFY had been proposed by MRWPCA as recently as May 2013. Apparently the project proponents decided not to include this additional water in the scope of the project for which the NOP was prepared. The Watermaster strongly urges that, if at all possible, the GWR Project be designed and configured such that it could provide additional water to replenish the SGWB. While the Watermaster does not currently have funds that could be used to purchase such additional water, if additional water could be made available once the GWR Project is operational, and if funds to purchase additional water became available, the additional water could be used to help raise groundwater levels to protective elevations to protect the SGWB from seawater intrusion. Accordingly, this potential to provide additional water via future expansion of the GWR Project should be addressed in the EIR. M-2

3. The map in Figure 1 does not clearly show where the GWR Project facilities are located. The "Monterey Peninsula Groundwater Replenishment Area" balloon is so large that it is really not helpful in understanding where the facilities described in the NOP will be located. M-3

4. It is very difficult to see exactly where the proposed Recharge Facilities are located in the map in Figure 2. Two detailed maps with a larger scale, one for each site, would be preferable. M-3 cont

5. On page 7 it states that Cal Am owns 12 wells in the SGWB. It would be more accurate to indicate that Cal-Am *currently operates* 12 production wells in the SGWB. M-4

6. On page 7 the sentence in the third paragraph pertaining to the makeup of the Watermaster should be corrected to read "The Watermaster Board of Directors consists of nine entities, one representative from each…." The next-to-last sentence in this paragraph should be revised to read "Water levels were found to be below sea level in portions of both…" M-5

7. On page 10 the statement is made that one of the secondary objectives of the project will be to "Assist in preventing seawater intrusion in the Seaside Basin." As noted in Comment No. 1, since all of the GWR Project water will be pumped out after it is injected into the SGWB, it does not appear that the GWR Project, as described in the NOP, will assist in preventing seawater intrusion in the SGWB. This statement should be removed or clarified. M-6

8. A number of water sources for the GWR Project are listed on pages 12-14. Two of the source waters proposed for the GWR Project on pages 12 and 14 are the Blanco Drain and the Reclamation Ditch. Both of these sources have historically shown high levels of contamination, such as a broad spectrum of pesticides, as well as metals and bacterial organisms. The design of the GWR Project Treatment Facilities should address this in order to ensure that the plant is able to reliably produce water of suitable quality for direct injection into the SGWB, which serves as a potable water supply to the public. M-7

9. The first sentence on page 17 should be revised to read "With groundwater levels currently below sea level in portions of both…" M-8

10. Table 1 on page 20 lists a "Permit for Injection Extraction" that will be needed from the Watermaster. The Watermaster's term for this permit is "Agreement for Storage and Recovery of Non-Native Water from the Seaside Groundwater Basin." The Watermaster adopted a formal process for applicants wishing to obtain such a permit to use, as well as specific requirements the Watermaster will impose if such an agreement were to be prepared for the GWR Project. Details on this can be obtained by contacting the Watermaster's office. M-9

Thank you for the opportunity to submit these comments so they can be addressed in the EIR.

Sincerely,

Robert Jaques
Technical Program Manager
(831) 375-0517
bobjj83@comcast.net

Final Report

Monitoring Strategies for Chemicals of Emerging Concern (CECs) in Recycled Water

Recommendations of a Science Advisory Panel

Panel Members

Paul Anderson, Nancy Denslow, Jörg E. Drewes (*Chair*), Adam Olivieri, Daniel Schlenk, and Shane Snyder

Convened by the

State Water Resources Control Board

June 25, 2010
Sacramento, California

Executive Summary

California presently recycles approximately 650,000 acre-feet of water per year, but has identified the potential to reuse an additional 1.5 million acre-feet in the future. To encourage expanded reuse in a state that is experiencing water shortages, the California State Water Resources Control Board (SWRCB) adopted a Recycled Water Policy in February 2009 intended to provide permitting clarity for recycled water projects. One challenge in developing that policy was how to address new classes of chemicals, such as pharmaceuticals, current use pesticides, and industrial chemicals, collectively referred to as chemicals of emerging concern (CECs). Many CECs are potentially present in recycled water, but the detection of many of these chemicals is so recent that robust methods for their quantification and toxicological data for interpreting potential human or ecosystem health effects are unavailable.

Recognizing that consideration of CEC effects on human health and aquatic life is a rapidly evolving field, and that regulatory requirements need to be based on best available science, the SWRCB included a provision in the Recycled Water Policy to establish a Science Advisory Panel. The Panel's primary charge is to provide guidance for developing monitoring programs that assess potential CEC threats from various water recycling practices, including indirect potable reuse via surface spreading; indirect potable reuse via subsurface injection into a drinking water aquifer; and urban landscape irrigation.

The Panel was formed in May 2009 and includes six national experts in the fields of chemistry, biochemistry, toxicology, epidemiology, risk assessment and engineering, with more than 100 years of combined experience investigating CEC issues. The Panel held four in-person meetings and numerous conference calls over the last year. The meetings included the opportunity for stakeholder input in clarifying their charge, exchange of information, dialog with the Panel and consideration of public comments on the draft report. This report provides the results from the Panel's deliberations, including four products intended to assist the State in refining its recycled water policy.

Product #1: A conceptual framework for determining which CECs to monitor

Given that thousands of chemicals are potentially present in recycled water and that information about those chemicals is rapidly evolving, the Panel recommends that the State rely on a transparent, science-based framework to guide prioritization of which CECs should be included in recycled water monitoring programs both now and in the future as additional data become available. Figure ES1 describes the Panel's recommended framework, which includes four steps:

1. Compile environmental concentrations (e.g., measured environmental concentration or MEC) of CECs in the source water for reuse projects;
2. Develop a monitor triggering level (MTL) for each of these compounds (or groups thereof) based on toxicological relevance;
3. Compare the environmental concentration (e.g., MEC) to the MTL. CECs with a MEC/MTL ratio greater than "1" should be prioritized for monitoring. Compounds

with a ratio less than "1" should only be considered if they represent viable treatment process performance indicators; and,

4. Screen the priority list to ensure that a commercially-available robust analytical method is available for that compound.

This part of the framework is focused on CECs for which there are concentration data from recycled source water and toxicological information. The framework also includes a provision for prioritizing chemicals for which such information is presently unavailable and which are referred to in the framework as "unknown unknowns". For these chemicals, the framework focuses on the prediction of environmental concentrations and the use of bioanalytical and chemical screening methods to identify chemicals for which there is the greatest urgency in developing MEC and MTL data for further assessment. The Panel understands that a chemical-by-chemical approach for prioritization of CECs is difficult because of limited resources and the growing number of CECs being identified. The Panel recognizes that bioanalytical methods will likely be the best way to accomplish this task. Although the USEPA have developed high-throughput bioanalytical screens for chemical testing, a prioritization framework for the evaluation of water using bioanalytical methods is not available at this point in time. However, the Panel encourages this topic to be a focus of research and development and future review meetings by an independent advisory panel (suggested for 2013) as more information becomes available.

Figure ES1. Conceptual framework to prioritize CECs for inclusion in recycled water monitoring programs.

In addition to defining an approach to select CECs to monitor based on their potential to pose a health risk, the Panel also defined an approach to identify indicator compounds for assessing treatment performance. Most reuse projects employ multiple treatment processes with a demonstrated ability to remove contaminants, but the treatment processes need a monitoring program designed to protect against system performance failures. The Panel's

recommended approach for monitoring removal of CECs during treatment is to use a combination of surrogate parameters and CEC indicator compounds tailored to monitor the removal efficiency of individual unit processes. An indicator compound is an individual CEC that represents certain physicochemical and biodegradable characteristics of a family of trace organic constituents. The indicator compounds are relevant to fate and transport of broader classes of chemicals and provide a conservative assessment of removal during treatment. A surrogate parameter is a quantifiable change of a bulk parameter that can measure the performance of individual unit processes (often in real-time) or operations in removing trace organic compounds and/or assuring disinfection.

Product #2: Application of the framework to identify a list of chemicals that should be monitored presently

To assist the State in short-term program implementation, the Panel compiled available California MEC data and derived initial MTLs from drinking water benchmarks to apply its recommended screening approach and identify the chemicals that should be prioritized for present CEC monitoring. In applying the framework, the Panel made a number of conservative assumptions (e.g., MECs reported to the Panel are indeed representative for the entire state, analytical method used to quantify are accurate, etc.) to maximize the number of candidate chemicals that are toxicologically relevant.

For groundwater recharge projects, four indicator compounds were prioritized based on their toxicological relevance: N-nitrosodimethylamine, 17beta-estradiol, caffeine, and triclosan. In addition, four additional CECs (N,N-Diethyl-meta-toluamide (DEET), gemfibrozil, iopromide and sucralose) were identified for surface spreading and direct injection operations as viable performance indicator compounds along with certain surrogate parameters (e.g., ammonia, dissolved organic carbon, conductivity), which differ by the type of reuse practice. The Panel also recommended method reporting levels (MRLs) that were compound specific and that ranged from 1 to 100 ng/L for these CECs. For monitoring programs to assess CEC threats for urban irrigation reuse, none of the chemicals for which measurement methods and exposure data are available exceeded the threshold for monitoring priority. This is largely attributable to higher MTLs because of reduced water ingestion in a landscape irrigation setting compared to drinking water. For irrigation applications, the Panel recommends monitoring emphasis be placed on use of surrogate parameters that can demonstrate that the treatment processes employed are effective in removing CECs.

The Panel emphasizes that all compounds listed above represent an initial list based on the limited data that are presently available and on a number of qualifying assumptions discussed in the report. The Panel believes it is critical to emphasize that if a measured or predicted concentration of a CEC at the point of monitoring (POM) exceeds its respective MTL, the finding does not indicate a public health risk exists. The MTLs and their application in the Panel's proposed framework are developed to be conservative and used only for the purpose of prioritizing CECs for monitoring. The Panel's proposed MEC/MTL ratios should not be used to make predictions about risk.

While the priority list of CECs represents a conservative screening of "CECs at large", the information available for such screening is growing rapidly and the Panel urges the State to reapply this prioritization process on at least a triennial basis. In order to fill data gaps for CECs with limited or no information on MECs in California, the Panel suggests that the State initially conduct a more thorough review of CECs likely to occur in recycled water using MEC and predicted environmental concentration (PEC) data from the peer-reviewed literature and occurrence studies outside California. Those CECs that exhibit MEC/MTL ratios above "1" could be placed on a secondary monitoring list that is measured less frequently to confirm either presence or absence of these CECs in recycled water in California. In addition, this secondary monitoring list could be populated by CECs that exhibit a relatively low MTL (less than 500 ng/L) based on the Panel's initial screening of various toxicological data bases. Results of these efforts, along with the monitoring data collected as part of the Panel's recommended program, can provide the basis for revising the proposed initial monitoring list during the next, and each, triennial review.

Product #3: A sampling design and approach for interpreting results from CEC monitoring programs

The Panel recommends a phased, performance-based approach for implementing CEC recycled water monitoring programs and a multi-tiered framework for interpreting the resulting data. Use of multiple tiers allows for a flexible, adaptable response to increase or decrease the information requirements from the monitoring program based on the initial results, providing a cost-effective means for incremental information gathering. The report also contains specific performance-based recommendations regarding strict sampling and analytical measurement quality assurance guidelines that are required at each phase.

The first phase involves screening that would be initiated at project start-up and continue through the early years of project operation. Recommended monitoring frequency during this first phase would be quarterly at project start-up decreasing to twice annually for more mature operational phases. If a specific CEC consistently exhibits low occurrence, the Panel recommends deleting the CEC from further monitoring provided that production data do not suggest a significant increase in use. If CECs exceed thresholds identified in the report, the Panel recommends moving to a second phase of enhanced monitoring to confirm the presence and frequency of such CEC(s). The third phase, should concentrations continue to be high, would require initiation of source identification and/or toxicology studies. The final phase would involve engineering removal studies and/or modification of plant operation if found to be warranted by the results of the third phase.

While the Panel provides recommended thresholds for each of these phases, conservative values were selected because of limited MEC data and constraints on the time the Panel had to review toxicological information. The Panel also understands that differences in recycled water quality and facility operations will occur by region and that investigation of chronic exceedances will need to be tailored on a regional or case-by-case basis. Moreover, the Panel recognizes that these monitoring recommendations are appropriate for investigative purposes and should not be construed as directly applicable for determination of regulatory compliance.

Product #4: Priorities for future improvements in monitoring and interpretation of CEC data

The science of CEC investigation is still in its early stages and the State can undertake several activities that will greatly improve both monitoring and data interpretation for recycled water management. The Panel provides a number of such recommendations, including: 1) Develop and validate more and better analytical methods to measure CECs in recycled water; 2) Encourage development of bioanalytical screening techniques that allow better identification of the "unknown unknown" chemicals; and 3) Develop a process to predict likely environmental concentrations of CECs based on production, use and environmental fate, as a means for prioritizing chemicals on which to focus method development and toxicological investigation. These investigations should be conducted with guidance and review by a Science Advisory Panel.

In addition to these research recommendations, the Panel recommends that the State develop a process to rapidly compile, summarize, and evaluate monitoring data as they become available. The Panel further recommends that the State establish an independent review panel, such as this one, that can provide periodic review of the proposed selection approach, reuse practices, and environmental concentrations of ongoing CEC monitoring efforts, particularly as data from the monitoring programs recommended here become available.

Recommendations of the Advisory Group on the Feasibility of Developing Uniform Water Recycling Criteria for Direct Potable Reuse

Convened by the State Water Resources Control Board

Final Report

Prepared by:

Advisory Group on the Feasibility of Developing
Uniform Water Recycling Criteria for Direct Potable Reuse

Under Agreement No. 13-21041
with the California State Water Resources Control Board
Division of Drinking Water

Prepared for:

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June 2016

Advisory Group Administrators

The Advisory Group also appreciates the outstanding services of staff at NWRI, who administered the Advisory Group process, organized and attended 11 Advisory Group meetings, and helped facilitate, organize, and edit this Advisory Group report. The Panel thanks:

- Jeff Mosher (Advisory Group facilitation)
- Brandi Caskey (Administrative support)
- Suzanne Faubl (Advisory Group support and report preparation)
- Jaime Lumia (Administrative support)
- Gina Vartanian (Report editing)

In particular, the Advisory Group recognizes the leadership of Jeff Mosher for overseeing this process and facilitating the meetings.

DPR Expert Panel

The Advisory Group would also like to recognize the State Water Board's Expert Panel on Evaluating the Feasibility of Direct Potable Reuse for its insight, input, and commitment to undertaking this tremendous effort. The Expert Panel members include:

- *Panel Co-Chair*: Adam Olivieri, Dr.P.H., P.E., EOA, Inc. (Oakland, CA)
- *Panel Co-Chair*: James Crook, Ph.D., P.E., Environmental Engineering Consultant (Boston, MA)
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- Jörg E. Drewes, Ph.D., Technical University of Munich (Munich, Germany)
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- Tim Wade, Ph.D., United States Environmental Protection Agency (Durham, NC)

WateReuse DPR Research Initiative

Finally, the Advisory Group acknowledges the significant time, effort, and investment provided by the WateReuse Research Foundation (now the Water Environment & Reuse Foundation) and WateReuse California, which together launched the California DPR Initiative in June 2012 to assist DDW in its state-

2.8.2 Rationale for Low-Dose Exposure Recommendations

More information is needed on the occurrence and effects of COCs and CECs. In addition, although significant data may be available on the human health and environmental impacts of some contaminants (such as endocrine disruptors, carcinogens, and those known to cause reproductive harm), the impacts of low dose/trace amounts and mixtures of multiple chemicals in water and the effects on vulnerable populations are less understood. Finally, while many COCs/CECs are not regulated in drinking water, some are likely to be regulated in the future.

If COCs/CECs such as pharmaceuticals, phthalates, and perfluorinated chemicals are found to be more concentrated or at higher levels in the advanced treated water produced by potable reuse facilities than they are in other drinking water sources, this could impact the treatment and monitoring criteria the State Water Board sets for potable reuse. The regulations may in turn affect the costs and technologies required to meet future maximum contaminant levels (MCLs). An understanding of COCs/CECs can also drive greater source control and green chemistry policies to reduce the levels of these constituents entering the wastewater system.

2.9 Use of Bioassays to Evaluate Constituents of Emerging Concern and Unknown Chemicals in Recycled Water

For the purposes of this recommendation, bioassays (shorthand for biological assay or assessment) involve the use of live human tissue or cells (in vitro) that target specific toxicity mechanisms to determine the biological activity (i.e., a proxy for toxicity) of a chemical or mixture of chemicals. Bioassays could provide an additional tool to evaluate the safety of recycled water for potable water in conjunction with conventional chemical testing and on-line monitoring systems. Additional research and development efforts are needed to determine whether bioassays could be applied to examine risks for unregulated chemicals and unknown mixtures of chemicals.

2.9.1 Bioassay Recommendations

The State Water Board should further study the use of bioassays for monitoring CECs and unknown chemicals in DPR projects. Based on the DPR Expert Panel's presentation relating their findings on bioassays, the Advisory Group agrees that current chemistry-based water quality and indicator-based treatment performance monitoring techniques are able to assess CECs in potable reuse projects. Currently, there are a number of challenges that must be addressed before bioassays can be implemented beyond research efforts. These limitations include: extraction procedures; quality assurance and quality control; standardized methods; treatment of false positives and false negatives; and the ability to interpret the results relative to human health. As the science of bioassays continues to develop, this technique may have the potential to supplement our current monitoring capabilities in the future. The State Water Board should continue to support research on the use of bioassays to move the science forward for possible future use in evaluating CECs/COCs.

2.9.2 Rationale for Bioassay Recommendations

Most CECs are not regulated, and many cannot be measured using traditional chemical analysis at low levels in wastewater or recycled water. Bioassays may offer the potential to provide a method (or methods) to assess the risks of unknown chemicals in recycled water, including the effects of a mixture

of chemicals. It will be important to track the development of bioassays by research scientists and the efforts of the US EPA's Office of Research and Development. The limitations on bioassays are daunting, including analytical methods and interpretation procedures, and need to be adequately addressed through research efforts. The State Water Board may want to consider research on a limited scale to evaluate the usefulness of current bioassay techniques in assessing the performance of advanced water treatment technologies; however, the burden of addressing all bioassay research needs is beyond the reach of the State Water Board and will require federal and international efforts.

October 24, 2016

To: Jeanine Townsend, Clerk to the Board
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From: Daniel Schlenk, PhD
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Re: **Evaluation of the feasibility of developing uniform water recycling criteria for direct potable reuse**

In 2010, the California State Water Resources Control Board ("Water Board") convened a Science Advisory Panel (SAP)to develop recommendations regarding monitoring of constituents of emerging concern (or CECs) in recycled water applications across the State. We, members of that SAP, are submitting these formal comments about the recent report entitled "**Evaluation of the feasibility of developing uniform water recycling criteria for direct potable reuse**" because we are concerned about both the factual basis and the conclusions reached in Chapter 5, titled Application of Bioanalytical Tools to Water Analyses.

Bioassays will improve, not replace current monitoring methods. While the report as a whole is well done, we believe Chapter 5 fails to recognize the necessity of incorporating cell-line assays into the routine testing protocols for recycled water. There is simply no way that chemical-by-chemical monitoring can keep pace with the discovery of new chemicals, either manufactured intentionally or produced unintentionally as by-products of e.g., recycled water treatment practices. We agree with the report's assertion that work remains to be done before these assays are ready for routine regulatory application, and further that the best use of the tools is to complement analytical chemistry, particularly in a non-targeted approach to help identify known and unknown agents. However, our vision is that as our knowledge of Adverse Outcome Pathways broadens, and more tools become available that allow comparison with guidelines already in place, the bioanalytical measurements will become an essential tool health protection and the State should focus on their development as rapidly as possible.

SAP recommendations for bioanalytical tools were misrepresented.
Further, we feel the report significantly misinterpreted recommendations made by the SAP in reaching their conclusions. We interpret Chapter 5 as suggesting that the recommendations of the 2010 SAP were to utilize bioanalytical tools through the Adverse Outcome Pathway paradigm to set guidelines for drinking water safety. While the members of the SAP were (and remain) staunch supporters of the Adverse Outcome Pathway and Toxicology in the 21st Century recommendations for chemical safety testing, we did not believe this process could be used to set *in vivo* water safety guidelines. Rather, we adhere to the paradigm of using Adverse Outcome Pathways to identify specific molecular responses that can be used as tools to evaluate recycled water for mixtures of known and unknown compounds. Adverse endpoints of cancer or reproductive dysfunction can be inferred by measuring activation of one or more molecular initiating events, and it is this data linkage of events that warrants the use of bioanalytical tools. In contrast to what was proposed in Chapter 5, we propose use of the Pathway to move "backwards" to evaluate exposure rather than "forward" to set a guideline. The benefits of this strategy to water assessment is the identification of linkages between in vivo responses and receptor-driven molecular initiating events that can be used in conjunction with preset guidelines for screening water.

The Expert Panel is highly critical of three publications from published literature; however, a wealth of additional literature is readily available. In 1975, the World Health Organization published a report entitled, "Health effects relating to direct and indirect re-use of waste water for human consumption" (WHO, 1975). This report by the WHO advocated the use of bioassays, including in vitro techniques, for the monitoring of recycled water. In fact, a review published in 2015 provides numerous examples of the application of bioassays specifically applied to recycled water for over 50 years (Leusch and Snyder, 2015). In addition, while the Expert Panel does provide a citation for WateReuse Research Foundation Project 10-07, it seems the Expert Panel may not have connected that the manuscripts in peer-reviewed literature are highly limited by word count restrictions. Some of the criticisms raised by the Expert Panel are well explained with the WRRF 10-07 report. Regardless, the Expert Panel report could have benefited by a more comprehensive review of widely available literature on this topic (Escher and Leusch, 2012). The Expert Panel focuses primarily on the use of in vitro bioassays to detect estrogens in UK studies from the 1990s, but could have benefited by considering more recent success stories such as identification of highly potent glucocorticoid steroids in recycled water (Jia et al., 2016). In addition, the Expert Panel did not consider that the US EPA already uses in vitro bioassay data. For instance, US EPA method 4435 "Screening for Dioxin-Like Activity in Soils and Sediments Using the CALUX Bioassay and TEQ Determinations" is an approved method already (http://www3.epa.gov/epawaste/hazard/testmethods/sw846/pdfs/4435.pdf).

The case for specific, receptor-based screening bioassays. As was stated in the SAP report (Anderson et al. 2010), identification of ligands that are specific for a receptor-mediated response can be quantified via biological equivalence values (i.e. BEQs), i.e. concentrations that can be interpreted in the same way one interprets individual chemical concentrations, or more appropriately summed concentrations of chemicals that

collectively activate a specific receptor. In this capacity, a guideline for the ligand is already present. For example, the SAP report led to selection of receptor-based bioanalytical assays that targeted CECs for which risk-based estimates of compounds indicated a potential hazard (Mehinto et al. 2015). The risk-based assessments already had guidelines for that ligand in water. It was our recommendation that if the BEQ of that molecular initiating event exceeded that guideline (a risk/hazard based process), then additional testing in a tiered approach could be initiated either to confirm the response or to potentially identify the causative agent. In no way did our report (Anderson et al. 2010) suggest that the bioanalytical response could be used in a refined risk assessment strategy to set a guideline for water quality, whether it be for a potable water supply or for a receiving water application. Moreover, since the proposed tools were selected contingent on their ability to be quantified via a BEQ response, and with a documented, credible linkage to an adverse outcome based on an existing standard or guideline, "reverse toxicokinetics" to characterize exposure is not necessary. If the goal of managers is to assess the potential hazards of recycled water, then use of these tools under "worst-case" scenario exposure (assuming 100% exposure) represents the most conservative exposure assessment approach. If molecular event bioactivation is not detected under the most conservative approach, then no further testing is needed (see associated figure 1).

Now target analyses. The Expert Panel seems to condone the use of non-targeted analyses (NTAs), yet barely mentions that many of the same limitations of bioassays also apply to NTA. For instance, the Expert Panel specifically addresses the issues of false positives/negatives, extraction efficiency, and limitations of mass spectrometric techniques. In fact, most laboratories would advocate for the use of matrix spikes of cellular bioassay positive controls within the waters to be evaluated. This allows for some certainty that the a well-known agonist is actually recovered from the sample preparation methods used. NTA is also generally limited to those substances that can be extracted or purged from water samples. For instance, it is extremely unlikely that NDMA, perchlorate, or 1,4-dioxane would have been detected using the most widely applied NTA procedures. While the SAP also agreed that NTA is a valuable and necessary tool, we believe it is highly complementary to bioassay analyses. As a recent case in point, medium pressure UV advanced oxidation has been shown to result in genotoxic byproducts, yet NTA has not yet been successful to identify those substances causing the reproducibly observed mutagenicity (Martijn and Kruithof, 2012; Kolkman et al., 2015; Martijn et al., 2016). Thus, we maintain that bioassays as part of routine monitoring programs provide valuable information regarding mixture toxicity that is otherwise not possible using analytical methods currently employed for water quality monitoring.

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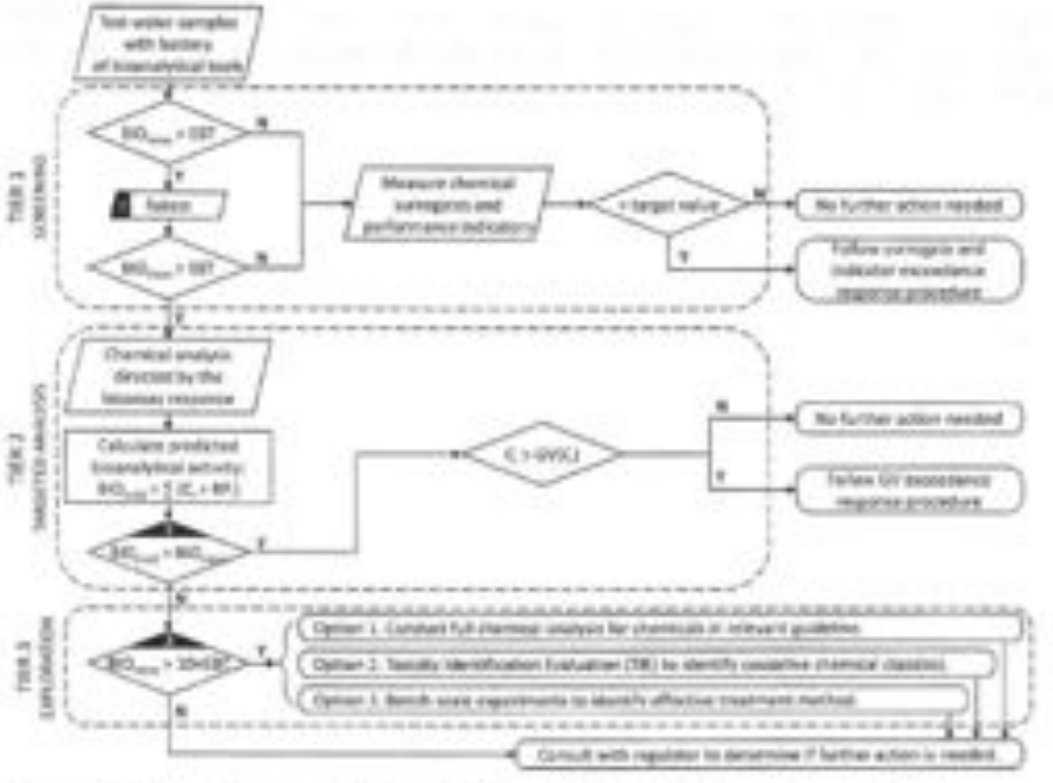

Figure 1. Proposed framework for using bioanalytical tools in water screening.
Leusch and Snyder 2015 *Environ Sci: Wat Res Technol* 1: 606-621

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MRWPCA is also the only Indirect Potable Reuse project proposing to use pre-ozonatic removal of organic chemicals.

Thanks,

Mike McCullough
Government Affairs Administrator, MPA
MRWPCA
831-645-4618

www.mrwpca.org

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From: Mike McCullough [mailto:MikeM@mrwpca.com]
Sent: Tuesday, April 18, 2017 12:30 PM
To: ronweitzman@redshift.com
Cc: Paul Sciuto
Subject: Comparable

Mr. Weitzman,

We are not aware of any other cases where agricultural wastewater is being treated anc

Agricultural lands or infrastructure to take the agricultural wastewater to regional wastew
Reuse projects are operating. A project in Chino Basin uses agricultural processing wa
Reuse project.

It should be noted that the majority of the water being sent to the Advanced Water Purif
sources or "new" water sources will also be mixed with the existing municipal wastewat
and secondary treatment. The water that is sent to the Advanced Water Purification Fac

MRWPCA is also the only Indirect Potable Reuse project proposing to use pre-ozonatic
removal of organic chemicals.

Thanks,

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Thank you for your reply, Mr. McCullough. Neither are we aw
to make it potable, nor are we aware of any peer-reviewed s
process on the mix of that source water with sewer water. W
attempt to meet do not include any standards or testing regir
agricultural runoff sites you are tapping for part of your sourc
peer-reviewed scientific studies showing dangerous amount
toxins in the Blanco Drain and Reclamation Ditch from which
pressure you are under because of the SWRCB's milestone
and, even more so, for us who would have to drink incomple
for your agency and what it is attempting to do. I personally
commitment to public service, particularly in relation to our o
to public health and the environment. Still, for the sake of all
Weitzman, for WRAMP

From: Mike McCullough [mailto:MikeM@mrwpca.com]
Sent: Tuesday, April 18, 2017 12:30 PM
To: ronweitzman@redshift.com

McGlothlin, Russell

From:	Marcia Wright <marciawright@comcast.net>
Sent:	Saturday, July 21, 2018 12:43 AM
To:	John Moore
Cc:	Ron Weitzman; DOWrecycledwater@waterboards.ca.gov; Dorene D'Adamo; Felicia Marcus; Frances Spivy-Weber; Steven Moore; Tam Doduc; Tom Howard; Claude Hoover; DSullivan@mpc.edu; Glen Dupree; Hart22584@comcast.net; KenEkelund@redshift.com; Mike LeBarre; Mike Scattini; Richard Ortiz; Jane Parker; John Phillips; Luis Alejo; Mary Adams; Simon Salinas; Bull Monning; Mark Stone; Carly Mayberry; McGlothlin, Russell; erickson@stamplaw.us; erica.burton@noaa.gov
Subject:	Re: IDP similar to PWM claimed IDP

John and All,

DPR projects are not permitted in California even with a narrow focus of sewage. Regulations for DPR will not take place until "the knowledge gaps are addressed and additional research is conducted related to specific public health issues." How PWM, which is a unique DPR project, managed to get a permit is a mystery to me, especially in light of the toxic cocktail of heavily polluted source waters it plans to purify, including 2 EPA designated 303d impaired water entities known to contain Ag legacy pesticides, Blanco Reclamation Ditch and Tembladero Slough.

Unfortunately, as it stands, SWB's peoposed DPR research will not be done by medical school physician specialists and medical researchers under their supervision. The research will be done by environmental civil engineers. Civil engineers have the qualifications and training to build and evaluate sanitation projects. Recycle for potable reuse is a human health impactful project, which necessitates evaluation by independent physician specialists. As good as civil engineers may be in their lane of credentials and training, they are unqualified to carry out medical research. I hope that the SWB will re-consider their initial decision and re-direct all DPR research grants to medical schools.

Keep in mind that even trying to "purify" domestic and medical sewage for human consumption, cooking, and bathing represents "a very high health risk" per the opinion of internationally renown infectious diseases physician specialist, Dr. Peter Collignon, M.D., who has been a consultant for WHO and other health entities worldwide including the USA, said: ***"Although this is technically feasible, we need to be very wary. Such recycling is associated with very high ongoing monetary and energy costs, but, most importantly from a health perspective, is a "very high-risk"proposal that reverses 150 years of good public health policy of striving to keep sewage out of our drinking water supplies…Sewage contains very high concentrations of pathogens and drugs. Viruses (the most difficult pathogens to remove) can occur in concentrations higher than 106 per litre — orders of magnitude higher than in even the most polluted rivers. The technical and human performance needed to remove viruses safely will have to be proportionately higher than current practice — difficult to achieve…We would also need to ensure that the system will work all the time… Reverse osmosis (RO) is the most effective way to remove viruses and drugs from sewage, and should remove virtually all viruses and drugs. Surprisingly, few in-use data are available to check this. RO membranes seem to leak. One study found that RO only removed 92% of antibiotics. Recent safety reviews, including an Australian review (based on the previous study), showed viruses were still detected post-treatment at three of seven sites on some occasions. The calculated virus removal ranged from 87% to > 99.995%, which equates to a "log reduction" of 1 to 5…This less than optimal performance was when the system was not known to be malfunctioning; lowered performance might occur as often as 5 days a year."***

Dr. Collignon's concerns regarding health risks of sewage recycle for potable reuse: industry known flaws in advance treatment technology, insufficiencies of surrogates and indicators used, potential for human error, lag between notification monitoring test reports and approved responses to detected unregulated pathogens and/or chemicals that have already passed through the AT process directly into raw water sources like aquifers are shard by Dr. Ted Schettler, M.D., M.P.H., SEHN's Science Director, who was quoted in a 2017 article as follows:

"…How well reverse osmosis works to filter out other contaminants, like pharmaceuticals and pesticides, depends on the specific chemical and the amount of pollution in the water. The water reuse textbook states that reverse-osmosis membranes strain out 90 to 96 percent of the toxic pesticide atrazine, for example, and 85 to 95 percent of the poisonous element arsenic….Solvents and other industrial chemicals that can disrupt hormones in the body's endocrine system are particularly worrisome. With a litany of dreadful health effects like cancer, birth defects, and infertility, these endocrine-disrupting chemicals can be extremely toxic even at the very low levels that could potentially get through even the most advanced water treatment, including reverse osmosis and advanced oxidation."It's not reassuring to me to hear that chemicals are present "only" at parts per trillion levels," said Ted Schettler, a physician and the science director of the non-profit Science and Environmental Health Network. "There are many chemicals that you would worry about at parts per trillion."Parts per trillion is really tiny — like having one drop of poison spread throughout 20 Olympic-size pools. For some chemicals, we don't even have analytical methods that can accurately detect such low concentrations. Yet even such a minuscule amount can have an effect on our bodies. "Our bodies' hormone systems operate at low parts per trillion levels," Schettler explained. "The hormone receptors are exquisitely sensitive to even minor shifts in those concentrations." The Environmental Protection Agency counts about 85,000 industrial chemicals registered for current use, but requires additional toxicity testing for only about 200 of them. Pesticides in home and garden products, which are regulated by the EPA's Federal Insecticide, Fungicide, and Rodenticide Act, can also make their way down the drain, as can FDA-regulated pharmaceuticals, which people excrete naturally after use. This all means that tens of thousands of different chemicals may be present in sewage before treatment — and after treatment we still don't have a full idea of the range of chemicals that get through. "What you really need to do is figure out what's in the water, and at what levels," Schettler said.

Cancer researcher, Dr. Steven Oppenheimer, who President Obama honored at the WH and Dr. Edward McGowan, M.D. Ph.D. with 40 years experience in water related projects and Dr. John Ackerman, M.D., M.P.H. all echo afore-mentioned public health concerns. Advance treatment technology seems to be surging forward with no supportive medical research evidence regarding public health and safety.

Even within environmental engineering circles, there are doubts about ATP ensuring human health and safety. Two months ago Dr. Charles Gerba, respected U of Arizona enviroemental engineer professor, published a report concluding that current LRV's assigned to advance treatment processes are inadequate to protect the public from risks of ARB's.

Dr. David Edwards @ Virginia Tech (who assisted Flint and DC residents) reported that recent research showed that pathogens in biofilms in distribution pipelines can re-constitute themselves and pose serious health risks when they reach POU taps or shower heads. Dr. Edwards also worried that lowered flow rate regulations for plumbing fixtures contributed to a more concentrated pollutant load in sewage with diminished greywater diluent presenting a significant future challenge for potable reuse ATF's.

Dr. David Spath, former DDW Chief and a member of the Advisory Group, also expressed concerns about health risks posed by DPR in a recent interview:

"No one knows exactly what's in sewage at any given time — people and businesses don't dump things down the drain on a regular schedule. It's very hard for a water scientist or public health official to know

everything to look for. And since detecting tiny amounts of chemicals relies on identifying them by their unique characteristics, it's nearly impossible for them to recognize a chemical they weren't already looking for.

Of the contaminants that are detected in recycled water, many of them have unknown health effects. "There's a lot [of chemicals] out there, that show up in monitoring, but that we don't really know what the broad effects might be from them," said David Spath, the former chief of the Division of Drinking Water and Environmental Management for the State of California. Even more troubling is that a combination of chemicals can be more toxic than the sum of their parts. It could be a big problem, according to Spath, "if you get three or four chemicals that are all endocrine disruptors that disrupt the same endocrine process, or if you have two or three chemicals that are all carcinogens that result in the same carcinogenic endpoint."

Only one major epidemological study has documented the human health effects of drinking recycled water. Conducted by a private research corporation and commissioned by a water utility, the study is now 25 years old. ("The chemicals that they're now looking for weren't even in anybody's vocabulary at the time," Spath said.) The science was inconclusive: Because of confounding factors like smoking and alcohol consumption, researchers couldn't prove or disprove the notion that drinking recycled water caused cancer or heart disease. The fact that some chemicals could disrupt hormone functioning hadn't yet been discovered at the time the study was published. "It is a difficult situation," Spath added.

Sewage especially medical sewage from hospitals and nursing homes is loaded with viruses and pharmaceutical compounds specifically designed not to be easily degraded. Antibiotic resistant microbes and genes are recognized by WHO, the CDC, and the EU as the most significant health threat for both developed and developing nations today. ARB's and viable ARG's are so tiny that they can slip through advance treatment barriers and reconstitute themselves when they come in contact with trace contaminants like metal or other trace chemicals and plasmids. California, unlike 22 other states, only requires medical facilities to report a handful of narrowly defined superbug infectious cases and the reporting procedure is so onerous, it's questionable how consistently medical facilities follow through. The latest estimate from the CDPH was that superbug infections cost approx $3 Billion in medical costs annually. Superbug infections don't always kill patients. But long term health damages occur - e.g. some types of heart disease are now recognized to have a viral infection cause. It's been suggested that ARB's and ARG's be included in CEC lists so there's formal recognition by regulatory agencies outside of medical circles.

Currently most CA. county labs with only ELAP certification do not have the expertise, equipment, or budget to test for waterborne ARB's and ARG's, which are viable but not cultureable (VBNC). ELAP labs use MPN testing indicators but that does not give an accurate evaluation of the viability of microbes. The US Coast Guard refused to adopt MPN to test water in their ballasts for that reason. Furthermore, because regional wastewater treatment plants are recognized as "hot spots" reservoirs for ARB's and ARG's, it's worrisome to consider what antibiotic resistant microbes and protein gene matter RWTP's pass along in their secondary treated effluent feed to ATP's, which are capable of breaching membranes and RO processes.

I hope the SWB is cautious and does due diligence, by seeking input from physician specialists in academia (e.g., infectious diseases specialists, endocrinologists, neonatal/pediatric specialists, oncologists), as well as funding medical research studies, before signing off on any regulations for DPR. To do otherwise is playing Russian Roulette with human lives, particularly vulnerable population groups like fetuses and children, the elderly, immune compromised groups like recovering cancer patients and HIV patients and organ/stem cell transplant patients.

PWM's permit should definitely be reviewed, that's certain, since DPR regulations do not yet exist. Furthermore, why Seaside Aquifer was designated as a suitable potable raw water source needs additional scrutiny.

Fort Ord's Site 39 sits right above Seaside Aquifer. The army's cleanup focused mainly on 3 contaminants - antimony, lead, and copper according to the Vice-Chair of Fort Ord Citizen Advisory Group. Ten pages of contaminants are associated with Fort Ord military activities in the course of 70 years before it was decommissioned. Fort Ord is designated as a National Superfund Site of High Priority. Live munitions are being found to this day. The army has not answered FOCAG's questions about the fate and disposal of all the listed contaminants. Site 39 was one of the largest Army infantry training and fire fighting ranges in the United States. PFA contaminants in fire fighting foam associated with military sites have been called a "PR nightmare" per news articles published a month ago, because long term health impacts by exposure to trace amounts of PFA's leached into groundwater have been acknowledged.

Fort Ord was also home to CDEC, Combat Development Experimentation Command (i.e. chemical warfare). A hydraulic trough prevented Seaside Aquifer waters from being distributed to CalAm customers, but a new pipeline built in conjunction with PWM construction will change that natural health protection for MP residents in the future. Water quality testing of inland sentinel wells and potential chemical changes effected by injecting non-native PWM waters directly to the aquifer have only been contracted to a consultant firms this spring. Some might say that this should have been done years ago as part of PWM's EIR.

Until MP residents are presented with an alternate medically safe (as opposed to merely legally safe) drinking water source, Carmel River should continue to be our main drinking water source, imho. PWM's finished product would be suitable for Salinas Valley Ag industry irrigation of food crops. Considering recent outbreaks of contaminated vegetables, an upgrade in recycle water quality for Ag use seems appropriate and long overdue.

Best Regards,
Marcia

> On Jul 20, 2018, at 7:43 PM, Ron Weitzman <ronweitzman@redshift.com> wrote:
>
> John, not only farmworkers would be at risk if pesticide-contaminated water is used for irrigation. Everyone who eats the irrigated produce would be at risk, as would the entire Salinas Valley economy. --Ron
>
> **From:** John Moore [mailto:jmoore052@gmail.com]
> **Sent:** Friday, July 20, 2018 6:46 PM
> **To:** Ron Weitzman
> **Cc:** Marcia Wright; DDWrecycledwater@waterboards.ca.gov; Dorene D'Adamo; Felicia Marcus; Frances Spivy-Weber; Steven Moore; Tam Doduc; Tom Howard; Claude Hoover; DSullivan@mpc.edu; Glen Dupree; Hart22584@comcast.net; KenEkelund@redshift.com; Mike LeBarre; Mike Scattini; Richard Ortiz; Jane Parker; John Phillips; Luis Alejo; Mary Adams; Simon Salinas; Bull Morning; Mark Stone; Carly Mayberry; russell moglothlin; erickson@stamplaw.us; erica.burton@noaa.gov
> **Subject:** Re: IDP similar to PWM claimed IDP
>
> Thanks, I was referring to the so called "holy water" rule whereby a clearly DPR project like PWM could get an exemption from DPR regs once adopted by residing in a Basin for just two months. I share your concern about this untried poisonous mix and farm workers, but my only opportunity to be heard is a promised hearing before the Judge of the Watermaster of the Seaside Basin, wherein I am attempting to convince the judge that he should not allow the PWM stuff to be injected into the Basin w/o and until it has been approved for DPR.

Meanwhile, the stuff could be used for non potable purposes, or, even injected into the Carmel river(for CDO credit). The problem with injecting high risk stuff in a Basin is that it can contaminate the whole basin, requiring two or more rain seasons to cleanse, whereas with a river, if contamination is found, the river will recover in less than a day as long as injection stops I hope others will join me.John M. Moore

On Fri, Jul 20, 2018 at 5:23 PM, Ron Weitzman <ronweitzman@redshift.com> wrote:
All, I do not know of any. I'm also concerned about the side contract Pure Water Monterey made with the county's water resources agency to provide growers with irrigation water subject only to tertiary treatment of the same brew of sewer and ag runoff water. The side contract was necessary to secure county approval of PWM's access to Salinas Valley ag water. Plants irrigated with that water are likely to be deformed and poisonous. The side contract acknowledges such a problem but provides no clear source of funds to correct it. The burden could easily fall on Monterey Peninsula ratepayers. --Ron

-----Original Message-----
From: jmoore052@gmail.com [mailto:jmoore052@gmail.com]
Sent: Friday, July 20, 2018 4:00 PM
To: Marcia Wright; ronweitzman@redshift.com;
DDWrecycledwater@waterboards.ca.gov
Subject: IDP similar to PWM claimed IDP

Do you know of any Ca Potable reuse project that would be similar to the PWM project even if it only recycled sewage? John
Sent from my iPhone=

McGlothlin, Russell

From:	John Moore <jmoore052@gmail.com>
Sent:	Wednesday, June 20, 2018 7:48 AM
To:	Swrcb Clerk
Subject:	Fwd: "Comment Letter-Proposed Recycled Water Amendment"
Attachments:	Scan_0110.pdf

This is an Addendum to my Comment Letter dated June 11, 2018. It adds a letter that I sent to the Seaside Basin Watermaster(an adjudicated Basin) re-stating its technical adviser that the PWM is in fact a DPR into a drinking water repository. I have also added Scan 110, a back and forth between WRAMP a party to the CPUC case dealing with PWM and with PWM wherein PWM confesses to several important issues: First, it agrees that recycled agriculture wastewater has never before been successfully recycled for potable purpose; and Second, agriculture wastewater has never before been mixed with sewage waste for potable purposes. Then, PWM does not add any health tests. We are an experiment.One could only imagine the testing that would be required by the FDA, or recommended by a true expert about these issues(like the SAP group).

My point is that the proposed regs. do not require verifications by the DDW or its Engineering Dept. PWM says it is a IPR, w/o any evidence, hires a environmental consultant with zero expertise in health issues, and the Engineer, DDW and the Regional Waterboard buys into it. Other districts will mimic this flawed process.John M. Moore

---------- Forwarded message ----------
From: <jmoore052@gmail.com>
Date: Sun, Jun 17, 2018 at 1:26 PM
Subject: Fwd: "Comment Letter-Proposed Recycled Water Amendment"
To: bobj83@comcast.net

Sent from my iPhone

Begin forwarded message:

> **From:** John Moore <jmoore052@gmail.com>
> **Date:** June 17, 2018 at 11:30:04 AM PDT
> **To:** snyders2@email.arizona.edu
> **Subject: Re: "Comment Letter-Proposed Recycled Water Amendment"**
>
> On Sun, Jun 17, 2018 at 10:30 AM, John Moore <jmoore052@gmail.com> wrote:
>
> ---------- Forwarded message ----------
> From: **John Moore** <jmoore052@gmail.com>
> Date: Sat, Jun 16, 2018 at 7:23 PM
> Subject: Fwd: "Comment Letter-Proposed Recycled Water Amendment"
>
> To: RMcGlothlin, Your client Seaside Groundwater Basin Watermaster:

I refer you to my "Comment Letter" to the State Water Board set forth above. The reason for this e-mail is to convince you to take the issue of the PWM water quality to be injected into the Basin to the judge, to determine whether the injected water is safe drinking water(like the other water in the Basin), or, whether it has the probability of contaminating the Basin. Your firm probably has a conflict because most, if not all, of the members(litigants)favor the PWM project and were active in the process that led to a permit for a project that threatens the purity of the Basin. A Special Counsel should be appointed to present the evidence that PWM water will probably contaminate the Seaside Basin. The court has the constitutional authority to assure that water that comes from the Basin is fairly distributed, but also, to assure that water injected into the Basin is not likely to contaminate the other waters in the Basin.

As set forth in my comment letter, my interest is that I believe that the evidence(as opposed to my opinion) proves my point.

The method utilized by PWM to obtain a permit for the project utilized two main strategies: First, they were careful not to hire any qualified experts concerning the dangers of recycled water to be included in the EIR that led to the permit, and, second, they convinced the DDW and the Regonal Water Board that the project was/is an Indirect Potable Reuse(IPR), when in fact it was/is a Direct Potable Reuse(DPR). Importantly, the State Water Board has not determined regulations that allow a DPR, that is what the Comment process is about, but per the proposed regulations, the PWM project could never qualify as a IDR. I assume that the proposed regulations will be adopted. Then the DDW will arrive at safety tests and methods to assure that DPR water is safe for a given project. Before PWM is allowed to inject water into the Basin, it must meet tests to be developed by the DDW.

Proof! I refer you to attachment 101 to my Comment Letter. It is a letter to the EIR for the project by Bob Jaques, technical expert for the Watermaster group. At para. 8, he made it clear that the PWM project would "directly" inject water into the Basin and that the Basin "serves as a potable water supply to the public."

Your client may be concerned that my suggestion will delay the project, but that is not so: If Cal Am and PWM truly believe that the project water is not a threat to public health, that can inject the water directly into Cal Am wells as they do for Carmel River Water. The public may become diseased and die, but the Basin will be saved.

My comment letter contains the facts that show the unique dangerous aspects of the PWM project. For example, there has never been even an IDP in Ca. that recycled toxic agricultural waste waters, let alone one that mixes the water with human waste(per the experts, mixing could have fatal consequences).

Except for Mr. Jaques, no true unbiased expert has been allowed to comment directly about the health dangers of this specific project, but all such experts would require tests like in vivo Bioassay to identify unknown pathogens . I attach a cv for Dr. Shane Snyder as an example of the type of experts that have made the safety of recycled water their life work.(Scan 108). There are numerous others, but Special Counsel should hire a comparable expert. BTW, there are several DPR projects outside of Ca. that utilize in vivo Bioassay testing to assure potability. In the proposed regs. they say it is experimental, but that is untrue.

The PWM claims that time in the Basin qualifies the project as an IDR because it allows at least two months for extra testing. The problem with that claim is that the new test would be applied

to mixed water and not identify the source of contaminants, but more importantly PWM water must be tested as a DPR and those tests have not been determined by DDW for this project. DPR tests must be applied before the PWM water is injected into the Basin, otherwise it is not potable water.

I am a licensed but retired Ca. lawyer. My interest in assuring the safety of the Basin is to prevent a Flint like disaster. I am younger than Warren Buffett, but I am subject to criticism by Agrists.

Respectfully submitted, John M. Moore

---------- Forwarded message ----------
From: **John Moore** <jmoore052@gmail.com>
Date: Mon, Jun 11, 2018 at 6:26 PM
Subject: "Comment Letter-Proposed Recycled Water Amendment"
To: commentletters@waterboards.ca.gov

Attn: Jeanine Townsend, Clerk to the Board:
My name is John M. Moore. I reside at 836 2d st. Pacific Grove Ca. I am a resident within the California American Water Co, a customer and resident within the agencies that comprise Pure Water MontereyPWM), a recycling project approved and under construction. A description of the project is attached as Scan 102. PWM is in the process of initiating an EIR for an expansion in the size of the project.

I have reviewed the Proposed Recycled Water Amendment in detail and have several criticisms:
1. The proposal is unrelated to the politics that demonize the characterization of a real Ca. Recycling project and it does not require verification of the truthfulness of the sponsoring agencies. As a result, PWM, for just one example represented to the Regional Board and the Dept. of Drinking Water(DDW), that the PWM project was/is an Indirect Potable Reuse (IPR), but nothing could be further from the truth.
The only evidence about whether the project was/is an IDP or a Direct Potable Reuse (DPR) is Letter M from the EIR, attachment 101, a letter by the Technical Program Manager of the Seaside Basin Watermaster (an adjudicated basin). He is in charge of the day to day operations of the basin in accepting drinking water into the basin and permitting owners of the water to extract their share. The letter proves that the PWM project is a DPR project and it did not qualify for a permit as an IDP.
So what was the misrepresentation by PWM? It claimed that because the water was required to sit in the Basin for two months, that constituted a Barrier that qualified the project as IDP; in short, per PWM the final delivery of the treated water to a well or basin is also a barrier . While the water does obtain minimal dilution in the basin, there is no leeching thru sands, several aquifers, extreme dilution etc. for five years, like the Orange Water District IDP project. PWM says, well the two months will allow it to test the water for that time. But if it is not a barrier, the required tests are for a DPR, and those tests are a part of this process, i. e., under development.
In Exhibit M, the Technical operator, Bob Jaques, made some telling points: First, In para 1. he notes that all water injected into the basin will be extracted shortly thereafter. So it is not a cleansing barrier that could qualify as an IDP. Second, he noted in para. 8 that two of the new water sources, Blanco Drain and the Reclamation Ditch both have a high level of contamination,

a broad spectrum of pesticides, as well as metals and bacterial organisms. He then said: "The design of the GWR Project Treatment Facilities should address this in order to ensure that the plant is reliably able to produce water of suitable quality for 'direct injection'(emphasis mine) into the SGWB, 'which serves as a potable water supply to the public'(emphasis mine)." But, there are no DPR tests; that is what this process is about. Mr. Jaques has just informed me that the tests required before treated water may be injected into the basin by PWM will be dictated by the DDW. But of course, as set forth above, PWM expects to apply the current tests for an IDR. I note that the proposed definition of a Barrier set forth in the proposed regulations would prohibit the PWM project from qualifying as an IDR.

2. The proposed Regulations do not deal with a PWM situation where two highly toxic but different water sources are mixed before treatment(human sewage from the city of Salinas and highly toxic agriculture waste). There is not even an IDR example of the recycling of agriculture waste for potable purposes, anywhere, let alone mixing it with sewage without any examination by trained toxicologists about the toxic effects of that mixing. Because PWM claims IDR status, there are no specific tests for this unique mix after treatment and before injection into the water supply. But there are several additional reasons(below) that comprehensive testing must be required before treated water from severely toxic sources (like PWM) is mixed with other drinking water.

3. Another criticism is that the proposed regulations imply that the Experts Report concluded that DPR can now be allowed on a case by case basis pursuant to the proposed regulations. A careful reading of that report implies that significant research and development must be concluded before DPR is permitted. The caveats by the experts are many and well founded.

4. If you are still reading this, you may be thinking, "yes, in fairness, the PWM project is quite challenging." Let me add to the drama and additional reasons that the project is unsafe. The Seaside Basin, the repository of the treated drinking water is located in Fort Ord a sandy, former U.S. Army base. The Basin sits below a Super Fund Toxic site that has decades of Infantry, tank and Artillery training, going back to pre WWII. I attach a few pages from Letter S(Scan 106) to the project EIR that details the toxic sources. After heavy rains, water on the two Ft. Ord golf courses disappears within a few hours. Where does it go?
The Basin is located in several earthquake faults, including the San Andreas fault. Because of the sandy soils, liquifaction of water-laden sediments(the soil turns into liquid) in the vadose zone(the soil from the basin to ground level) could contaminate the basin with Fort Ord debris, chemicals and whatnot. There is no alternate source of water.
I refer you to attachment 104, from the proposed regs. 5.2.4.8." Peak Attenuation of Short Term Pulses of Chemicals Likely to Persist Through Advanced Treatment."The section has to do with unexpected events, like an industrial spill and questions how this might (or not) work. It concludes with: "How this would Work is a research Question?" In the case of the PWM DPR project, we bloody well better get on that, or babies will die!

5. I refer you to attachment 100. It is a 2016 comment letter from the three toxicology scientist that were on the 2010 Science Advisory Panel(SAP). The comment was because the proposed regs. did not adopt Bioassays as part of the safety tests for DPR and as set forth in the letter they made compelling arguments that in vivo bioassay testing is critical if DPR is to produce safe drinking water. In vivo is expensive, because it involves assaying live organisms from live animals. It actually assays a cell and identifies discrete parts for pathogens(in vitro tests dead samples and is not as helpful).
Now that you have been exposed to real life, the PWM project, you should reconsider the omission of in vivo bioassay tests. Could any sane adult allow treated wastewater from the PWM

project to be injected into the drinking water of the Seaside Basin w/o in vivo bioassay testing? I am a rate payer and I say, get those tests.We will pay for them. BTW, the credentials of the three SAP members are very impressive. Listen to them.

6.I refer you to attachment 105. It is the face page of the DDW acceptance of the Final Engineering Report for the PWM project. para, 1. confirms that approval was granted on the assumption that the project was in fact an IPR project in fact, not one just based on a trick, claiming that a repository of treated drinking water was an IPR qualifying barrier.

7. The wealth of opinions from the experts that study the Toxicology of recycled wastewater is that neither IPR nor DPR is safe. I could attach dozens of examples, but will limit it to Scan 107, which is typical. Can you imagine how such experts would react to the PWM project. But of course the agencies pursuing such dangerous projects never hire honest qualified experts. The safety expert for the PWM EIR prepared a written report that based her opinion on asserted examples of projects and studies that she argued showed that the PWM process was safe. Not a single existing project had source water as toxic as the PWM sources. As for studies, she cited the Rand study which showed a 73% increase in liver cancer by those that drank recycled water as an article positive to the PWM project. I checked her company out in Dun and Bradstreet: at the time of her EIR report she had two employees, she and her mother.

8. There is a very critical factor missing from the proposed regs. The standards in the Regs must be so secure about the recycled water's safety for potable purposes that forced users like me do not need to worry about the safety of the water. They are not close. At this time very few of the forced users of the PWM mix are even faintly aware of the dangerous PWM project. Cal Am has informed me that there will not be a source of water free from the PWM mix. There was no vote and when the true nature of the project becomes public, chaos should result. What adds to the insult is the the human waste and agriculture wastewater sources come from areas out side the Cal Am water district, so their residents will not be forced to drink the worrisome mix. WE ARE ENTITLED TO KNOW THAT OUR DRINKING WATER IS SAFE !
As Dr. Oppenheimer stated, it may be years before the toxicity is discovered. A recent report about the Michigan contamination of the seventies, indicates that even three generations after actual exposure to the public in the seventies, the toxic effects continue to show in the subsequent generations, tho they were not actually exposed to the contaminants.

I have had this home for about twenty years. Unless the PWM project is made safe, I will be forced to move. John M. Moore

From: **John Moore** <[illegible]@gmail.com>
Date: Tue, Apr 18, 2017 at 2:45 PM
Subject: Re: Comparable
To: Ron Weitzman <[illegible]>
Cc: Mike McCullough <[illegible]>, Paul Sciuto <[illegible]>, Jean Getchell <[illegible]>, [illegible], [illegible], [illegible], [illegible], Jane Parker <[illegible]>, Mary Adams <[illegible]>, Dorene D'Adamo <[illegible]>, Felicia Marcus <[illegible]>, Frances Spivy-Weber <[illegible]>, Steven Moore <[illegible]>, Tam Doduc <[illegible]>, Tom Howard <[illegible]>, [illegible], [illegible]

At Last, an honest answer to our concerns. Now let's check to see whether the true cost of the treatment was included in the estimate given to the state for financing, including the cost of the many processes that are now being touted.

My concern is that it may or may not be possible to remove all toxic solubles from the wastewater, but if the cost is prohibitive, that should be revealed now, before it is too late. Everything that I have read about Advanced Oxidation is that it becomes very expensive and that is why it has not been tried to the extent now proposed. John M. Moore, Esq.

On Tue, Apr 18, 2017 at 2:19 PM, Ron Weitzman <[illegible]> wrote:

> Thank you for your reply, Mr McCullough. Neither are we aware of any advanced treatment of agricultural runoff water to make it potable, nor are we aware of any peer-reviewed scientific studies evaluating the effectiveness of the process on the mix of that source water with sewer water. We are concerned that the Title 22 requirements you attempt to meet do not include any standards or testing regimens for pesticides and other toxins known to exist in the agricultural runoff sites you are tapping for part of your source water. That concern has grown out of our knowledge of peer-reviewed scientific studies showing dangerous amounts of DDT, diazinon, chlorpyrifos, and other pesticides and toxins in the Blanco Drain and Reclamation Ditch from which you plan to withdraw source water. We recognize the pressure you are under because of the SWRCB's milestones or deadlines. That is unfortunate for both your agency and, even more so, for us who would have to drink

Blanco Drain and Reclamation Ditch from which you plan to withdraw source water. We recognize the pressure you are under because of the SWRCB's milestones or deadlines. That is unfortunate for both your agency and, even more so, for us who would have to drink incompletely tested water. All that said, WRAMP has high regard for your agency and what it is attempting to do. I personally wish that other local public agencies had your drive and commitment to public service, particularly in relation to our ongoing Monterey Peninsula water shortage and its threat to public health and the environment. Still, for the sake of all of us, we need time to resolve this issue. --Ron Weitzman, for WRAMP

From: Mike McCullough [mailto:[illegible]]
Sent: Tuesday, April 18, 2017 12:30 PM
To: [illegible]
Cc: Paul Sciuto
Subject: Comparable

Mr. Weitzman,

We are not aware of any other cases where agricultural wastewater is being treated and used for indirect potable reuse.

Agricultural lands or infrastructure to take the agricultural wastewater to regional wastewater treatment plants is not typically seen in areas where existing Indirect Potable Reuse projects are operating. A project in Chino Basin uses agricultural processing water (wash water) that is conveyed as one of the sources for its Indirect Potable Reuse project.

It should be noted that the majority of the water being sent to the Advanced Water Purification Facility is from its existing municipal wastewater entities. The other water sources or "new" water sources will also be mixed with the existing municipal wastewater at the Regional Treatment Plant. All of those wastewaters will receive primary and secondary treatment. The water that is sent to the Advanced Water Purification Facility

will be subjected to four additional treatment processes.

MRWPCA is also the only Indirect Potable Reuse project proposing to use pre-ozonation in addition to the full advanced treatment requirement which addresses the removal of organic chemicals.

Thanks

McGlothlin, Russell

From:	John Moore <jmoore052@gmail.com>
Sent:	Sunday, June 17, 2018 10:30 AM
To:	McGlothlin, Russell
Cc:	Randy.Barnard@waterboards.ca.gov; DDWrecycledwater@waterboards.ca.gov
Subject:	Fwd: "Comment Letter-Proposed Recycled Water Amendment"
Attachments:	Scan_0100.pdf; Scan_0101.pdf; Scan_0102.pdf; Scan_0104.pdf; Scan_0105.pdf; Scan_0106.pdf; Scan_0107.pdf; Scan_0108.pdf

---------- Forwarded message ----------
From: **John Moore** <jmoore052@gmail.com>
Date: Sat, Jun 16, 2018 at 7:23 PM
Subject: Fwd: "Comment Letter-Proposed Recycled Water Amendment"

To: RMcGlothlin, Your client Seaside Groundwater Basin Watermaster:

I refer you to my "Comment Letter" to the State Water Board set forth above. The reason for this e-mail is to convince you to take the issue of the PWM water quality to be injected into the Basin to the judge, to determine whether the injected water is safe drinking water(like the other water in the Basin), or, whether it has the probability of contaminating the Basin. Your firm probably has a conflict because most, if not all, of the members(litigants)favor the PWM project and were active in the process that led to a permit for a project that threatens the purity of the Basin. A Special Counsel should be appointed to present the evidence that PWM water will probably contaminate the Seaside Basin. The court has the constitutional authority to assure that water that comes from the Basin is fairly distributed, but also, to assure that water injected into the Basin is not likely to contaminate the other waters in the Basin.

As set forth in my comment letter, my interest is that I believe that the evidence(as opposed to my opinion) proves my point.

The method utilized by PWM to obtain a permit for the project utilized two main strategies: First, they were careful not to hire any qualified experts concerning the dangers of recycled water to be included in the EIR that led to the permit, and, second, they convinced the DDW and the Regonal Water Board that the project was/is an Indirect Potable Reuse(IPR), when in fact it was/is a Direct Potable Reuse(DPR). Importantly, the State Water Board has not determined regulations that allow a DPR, that is what the Comment process is about, but per the proposed regulations, the PWM project could never qualify as a IDR. I assume that the proposed regulations will be adopted. Then the DDW will arrive at safety tests and methods to assure that DPR water is safe for a given project. Before PWM is allowed to inject water into the Basin, it must meet tests to be developed by the DDW.

Proof! I refer you to attachment 101 to my Comment Letter. It is a letter to the EIR for the project by Bob Jaques, technical expert for the Watermaster group. At para. 8, he made it clear that the PWM project would "directly" inject water into the Basin and that the Basin "serves as a potable water supply to the public."

Your client may be concerned that my suggestion will delay the project, but that is not so: If Cal Am and PWM truly believe that the project water is not a threat to public health, that can inject the water directly into Cal Am wells as they do for Carmel River Water. The public may become diseased and die, but the Basin will be saved.

My comment letter contains the facts that show the unique dangerous aspects of the PWM project. For example, there has never been even an IDP in Ca. that recycled toxic agricultural waste waters, let alone one that mixes the water with human waste(per the experts, mixing could have fatal consequences).

Except for Mr. Jaques, no true unbiased expert has been allowed to comment directly about the health dangers of this specific project, but all such experts would require tests like in vivo Bioassay to identify unknown pathogens . I attach a cv for Dr. Shane Snyder as an example of the type of experts that have made the safety of recycled water their life work.(Scan 108). There are numerous others, but Special Counsel should hire a comparable expert. BTW, there are several DPR projects outside of Ca. that utilize in vivo Bioassay testing to assure potability. In the proposed regs. they say it is experimental, but that is untrue.

The PWM claims that time in the Basin qualifies the project as an IDR because it allows at least two months for extra testing. The problem with that claim is that the new test would be applied to mixed water and not identify the source of contaminants, but more importantly PWM water must be tested as a DPR and those tests have not been determined by DDW for this project. DPR tests must be applied before the PWM water is injected into the Basin, otherwise it is not potable water.

I am a licensed but retired Ca. lawyer. My interest in assuring the safety of the Basin is to prevent a Flint like disaster. I am younger than Warren Buffett, but I am subject to criticism by Ageists.

Respectfully submitted, John M. Moore

---------- Forwarded message ----------
From: **John Moore** <jmoore052@gmail.com>
Date: Mon, Jun 11, 2018 at 6:26 PM
Subject: "Comment Letter-Proposed Recycled Water Amendment"
To: commentletters@waterboards.ca.gov

Attn: Jeanine Townsend, Clerk to the Board:
My name is John M. Moore. I reside at 836 2d st. Pacific Grove Ca. I am a resident within the California American Water Co, a customer and resident within the agencies that comprise Pure Water MontereyPWM), a recycling project approved and under construction. A description of the project is attached as Scan 102. PWM is in the process of initiating an EIR for an expansion in the size of the project.

I have reviewed the Proposed Recycled Water Amendment in detail and have several criticisms:

1. The proposal is unrelated to the politics that demonize the characterization of a real Ca. Recycling project and it does not require verification of the truthfulness of the sponsoring agencies. As a result, PWM, for just one example represented to the Regional Board and the Dept. of Drinking Water(DDW), that the PWM project was/is an Indirect Potable Reuse (IPR), but nothing could be further from the truth.

The only evidence about whether the project was/is an IDP or a Direct Potable Reuse (DPR) is Letter M from the EIR, attachment 101, a letter by the Technical Program Manager of the Seaside Basin Watermaster (an adjudicated basin). He is in charge of the day to day operations of the basin in accepting drinking water into the basin and permitting owners of the water to extract their share. The letter proves that the PWM project is a DPR project and it did not qualify for a permit as an IDP.

So what was the misrepresentation by PWM? It claimed that because the water was required to sit in the Basin for two months, that constituted a Barrier that qualified the project as IDP; in short, per PWM the final delivery

of the treated water to a well or basin is also a barrier . While the water does obtain minimal dilution in the basin, there is no leeching thru sands, several aquifers, extreme dilution etc. for five years, like the Orange Water District IDP project. PWM says, well the two months will allow it to test the water for that time. But if it is not a barrier, the required tests are for a DPR, and those tests are a part of this process, i. e., under development.
In Exhibit M, the Technical operator, Bob Jaques, made some telling points: First, In para 1. he notes that all water injected into the basin will be extracted shortly thereafter. So it is not a cleansing barrier that could qualify as an IDP. Second, he noted in para. 8 that two of the new water sources, Blanco Drain and the Reclamation Ditch both have a high level of contamination, a broad spectrum of pesticides, as well as metals and bacterial organisms. He then said: "The design of the GWR Project Treatment Facilities should address this in order to ensure that the plant is reliably able to produce water of suitable quality for 'direct injection'(emphasis mine) into the SGWB, 'which serves as a potable water supply to the public'(emphasis mine)." But, there are no DPR tests; that is what this process is about. Mr. Jaques has just informed me that the tests required before treated water may be injected into the basin by PWM will be dictated by the DDW. But of course, as set forth above, PWM expects to apply the current tests for an IDR.
I note that the proposed definition of a Barrier set forth in the proposed regulations would prohibit the PWM project from qualifying as an IDR.

2. The proposed Regulations do not deal with a PWM situation where two highly toxic but different water sources are mixed before treatment(human sewage from the city of Salinas and highly toxic agriculture waste). There is not even an IDR example of the recycling of agriculture waste for potable purposes, anywhere, let alone mixing it with sewage without any examination by trained toxicologists about the toxic effects of that mixing. Because PWM claims IDR status, there are no specific tests for this unique mix after treatment and before injection into the water supply. But there are several additional reasons(below) that comprehensive testing must be required before treated water from severely toxic sources (like PWM) is mixed with other drinking water.

3. Another criticism is that the proposed regulations imply that the Experts Report concluded that DPR can now be allowed on a case by case basis pursuant to the proposed regulations. A careful reading of that report implies that significant research and development must be concluded before DPR is permitted. The caveats by the experts are many and well founded.

4. If you are still reading this, you may be thinking, "yes, in fairness, the PWM project is quite challenging." Let me add to the drama and additional reasons that the project is unsafe. The Seaside Basin, the repository of the treated drinking water is located in Fort Ord a sandy, former U.S. Army base. The Basin sits below a Super Fund Toxic site that has decades of Infantry, tank and Artillery training, going back to pre WWII. I attach a few pages from Letter S(Scan 106) to the project EIR that details the toxic sources. After heavy rains, water on the two Ft. Ord golf courses disappears within a few hours. Where does it go?
The Basin is located in several earthquake faults, including the San Andreas fault. Because of the sandy soils, liquifaction of water-laden sediments(the soil turns into liquid) in the vadose zone(the soil from the basin to ground level) could contaminate the basin with Fort Ord debris, chemicals and whatnot. There is no alternate source of water.
I refer you to attachment 104, from the proposed regs. 5.2.4.8." Peak Attenuation of Short Term Pulses of Chemicals Likely to Persist Through Advanced Treatment."The section has to do with unexpected events, like an industrial spill and questions how this might (or not) work. It concludes with: "How this would Work is a research Question?" In the case of the PWM DPR project, we bloody well better get on that, or babies will die!

5. I refer you to attachment 100. It is a 2016 comment letter from the three toxicology scientist that were on the 2010 Science Advisory Panel(SAP). The comment was because the proposed regs. did not adopt Bioassays as part of the safety tests for DPR and as set forth in the letter they made compelling arguments that in vivo bioassay testing is critical if DPR is to produce safe drinking water. In vivo is expensive, because it involves

assaying live organisms from live animals. It actually assays a cell and identifies discrete parts for pathogens(in vitro tests dead samples and is not as helpful).
Now that you have been exposed to real life, the PWM project, you should reconsider the omission of in vivo bioassay tests. Could any sane adult allow treated wastewater from the PWM project to be injected into the drinking water of the Seaside Basin w/o in vivo bioassay testing? I am a rate payer and I say, get those tests.We will pay for them. BTW, the credentials of the three SAP members are very impressive. Listen to them.

6.I refer you to attachment 105. It is the face page of the DDW acceptance of the Final Engineering Report for the PWM project. para, 1. confirms that approval was granted on the assumption that the project was in fact an IPR project in fact, not one just based on a trick, claiming that a repository of treated drinking water was an IPR qualifying barrier.

7. The wealth of opinions from the experts that study the Toxicology of recycled wastewater is that neither IPR nor DPR is safe. I could attach dozens of examples, but will limit it to Scan 107, which is typical. Can you imagine how such experts would react to the PWM project. But of course the agencies pursuing such dangerous projects never hire honest qualified experts. The safety expert for the PWM EIR prepared a written report that based her opinion on asserted examples of projects and studies that she argued showed that the PWM process was safe. Not a single existing project had source water as toxic as the PWM sources. As for studies, she cited the Rand study which showed a 73% increase in liver cancer by those that drank recycled water as an article positive to the PWM project. I checked her company out in Dun and Bradstreet: at the time of her EIR report she had two employees, she and her mother.

8. There is a very critical factor missing from the proposed regs. The standards in the Regs must be so secure about the recycled water's safety for potable purposes that forced users like me do not need to worry about the safety of the water. They are not close. At this time very few of the forced users of the PWM mix are even faintly aware of the dangerous PWM project. Cal Am has informed me that there will not be a source of water free from the PWM mix. There was no vote and when the true nature of the project becomes public, chaos should result. What adds to the insult is the the human waste and agriculture wastewater sources come from areas out side the Cal Am water district, so their residents will not be forced to drink the worrisome mix. WE ARE ENTITLED TO KNOW THAT OUR DRINKING WATER IS SAFE !
As Dr. Oppenheimer stated, it may be years before the toxicity is discovered. A recent report about the Michigan contamination of the seventies, indicates that even three generations after actual exposure to the public in the seventies, the toxic effects continue to show in the subsequent generations, tho they were not actually exposed to the contaminants.

I have had this home for about twenty years. Unless the PWM project is made safe, I will be forced to move.
John M. Moore

Fort Ord Community Advisory Group (FOCAG)
P.O. Box 969
Seaside, CA 93955
Phone: 831-484-6659
Email: focagemail@yahoo.com

The "Fort Ord Community Advisory Group is a public interest group formed to review, comment and advise on the remediation (cleanup) of the Fort Ord Army Base, Superfund Site, to ensure that human health, safety and the environment are protected to the greatest extent possible." - Mission Statement.

Monterey Regional Water Pollution Control Agency (MRWPCA)
ATTN: Bob Holden
5 Harris Court, Bldg D
Monterey, CA 93940
Via E-mail: GWR@mrwcpa.com, hard copy to follow via U.S. Mail

Re: Notice of Preparation, Scoping Comments
Monterey Peninsula Groundwater Replenishment Project Environmental Impact Report

July 2, 2013

Dear Bob Holden,

The Fort Ord Community Advisory Group (FOCAG) offers the following comments on the scope of environmental issues. The scope should include existing hazards to drinking water and potential increasing hazards to the drinking water supply due to the migration and leaching of toxic chemicals from former Army training ranges. These would include proposed ground disturbing activities including a horse park. The Seaside Aquifer lies directly beneath the Army Training Ranges, known as Site #39 of former Fort Ord. This area includes the area known as Parker Flats that had, among other uses, Army tank training areas. S-1

Fort Ord is a National Superfund Site, first put on the National Superfund Priority List because of discovered contamination of area groundwater. S-2

There have been multiple issues with the Upper 180, the Lower 180, and the 400-foot aquifers beneath areas of former Fort Ord. Site #39, perhaps the largest munitions impact/training area in the country, sits over the Seaside Groundwater Basin. This should be of concern to MRWPCA and others for the possibility of leaching and migration of chemicals into underground aquifers. S-2 cont

It is understood residual munitions chemicals from 77-years of munitions use, remain in Fort Ord training areas, including Site 39. The cleanup thus far, has concentrated on remaining unexploded munitions, but failed to identify many munitions constituents even though numerous munitions chemistry books were and are readily available. How can the extent of contamination be known unless all known munitions constituents are looked for? The cleanup has used a sampling rationale of looking for a few constituents but only reporting levels above a certain threshold. There potentially are hundreds of chemicals below threshold levels. For example, hypothetically, if there are two hundred chemicals each at 2 ppm, well below the reporting level, there potentially could be a toxic chemical brew of 200-400 ppm. Could the cumulative, low levels of chemicals potentially be a health hazard? Are the human health risks known for this level of exposure? What are the synergistic effects of munitions chemicals and pesticides on organisms? Are there studies available on the effects of low-level exposure to these chemicals?

Hundreds of munitions chemicals and pesticides at very low levels may be a potential toxic brew creating a health and safety hazard in the underground water aquifers. The cleanup has failed to make the public aware of the actual levels of munitions and pesticide contaminates throughout training areas.

a) What might be the justification for the cleanup failing to identify all the munitions and pesticide chemicals in Tables 3,4,5, and 6? (See Attachment 2, Tables 1-7). The Army BRAC has been asked the following questions:

b) Because the Army kept abysmal records of training ranges, training areas and specific activities, what is the justification for failing to look for all munitions chemicals and pesticides in all training areas, including Site #39? S-3

c) What is the justification for the cleanup failing to include all the munitions and pesticide chemicals identified in Attachment 2, Tables 3,4,5, and 6?

d) What is the extent of out-gassing from munitions and pesticide chemicals

in former training areas?
e) What is the justification for failing to report the actual levels of munitions and pesticide chemicals in all training areas? S-3 cont

On 3-24-10 (fortordcleanup.com, Document BW-2532), and 2-7-11 (fortordcleanup.com, Document BW-2557), the FOCAG raised questions regarding pesticide use at Fort Ord and in training areas. The 2-7-11 FOCAG letter specifically addresses Army's failure to thoroughly investigate pesticides in training areas. Despite Army's claim that it has thoroughly investigated pesticides in training areas, our review of the cited cleanup documents did not support the Army's claim. The only sampling we have found for pesticides in the Parker Flats and Site 39 training areas was for a total of 4 sample locations that only looked for 8 organochlorine pesticides.

It is our understanding Army BRAC remains responsible for identifying and sampling for chemicals potentially used in training areas, including Site 39. However, the chemicals being looked for in former Army training sites is woefully inadequate. The FOCAG includes, with this letter, 7 Tables of munitions chemicals and pesticides potentially found in former Fort Ord including a list of Training Areas and the chemicals actually being looked for in. (See attachment 2, Tables 1-7) S-4

There are several hundred chemicals potentially leaching out of ordnance into the ground as well as residual chemicals from decades of weapons/ordnance training and pyrotechnics. Herbicides were used to keep vegetation down and minimize threats of wildfires from munitions training exercises. Attached are 6 Tables identifying munitions chemicals and pesticides used in training areas include Table 1, is the Fort Ord Cleanup 1994 list of potential Training Range chemicals. Table 2 is the Fort Ord Cleanup 2003 Sampling and Analysis list of potential Training Range chemicals. Tables 3, and 4 are lists of munitions constituents found in munitions chemistry books, many of which the cleanup has not included in its list(s). Tables 5, and 6 are lists of pesticides; known and suspected as being used at Fort Ord. Particularly alarming is Table 5 that identifies 23 munitions chemicals also known to be pesticides. This may explain why some training areas are virtually devoid of insects and birds. Not only has

Water Boards

State Water Resources Control Board
Division of Drinking Water

November 7, 2016

John M. Robertson, Executive Officer
Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401-7906

Dear Mr. Robertson

Final Engineering Report for the Pure Water Monterey Groundwater Replenishment Project (2790002-706)

This letter transmits the State Water Resources Control Board, Division of Drinking Water (DDW) acceptance of the Final Engineering Report (Final Report) for the Pure Water Monterey Groundwater Replenishment Project (Project) dated 21 October 2016. Monterey Regional Water Pollution Control Agency (MRWPCA) held a public hearing on August 22, 2016. Fifteen attendees provided oral comments and 10 submitted comment cards during the hearing. An additional 6 comment letters were received by the close of public comment period. MRWPCA provided a summary of comment responses, a copy of comments received, and a revision to the Draft Final Engineering Report based on the public comments received.

DDW recommends the Central Coast Regional Water Quality Control Board (RWQCB) include the following conditions in the permit as DDW Requirements:

1. The Pure Water Monterey Groundwater Replenishment Project (Project) shall comply with Article 5.2 – Indirect Potable Reuse: Groundwater Replenishment – Subsurface Application, Sections 60320.200 through 60320.228 of the Title 22, California Code of Regulations.
2. The Project's advanced water treatment facility (AWTF) shall conduct startup and commissioning testing that meets the requirement in §60320.201 Advanced Treatment Criteria. A test protocol must be submitted for approval prior to commencement of testing.
3. The Project AWTF shall be operated to meet the requirements in §60320.122. Operation Optimization and Plan.
4. Per §60320.122. Operation Optimization Plan, prior to operation, MRWPCA shall submit an Operation Optimization Plan for review and approval. At a minimum, the Operation Optimization Plan shall identify and describe the operations, maintenance, analytical methods, monitoring (grab and online) necessary for the Project to meet the requirements and the reporting of monitoring results.

The following is from "The Source" –a magazine by Melbourne Water March 2006 Issue 37.

In Singapore, John Poon oversaw a 3 year study of human health risks and chemical and microbial risks.

He said no single technology is foolproof, and potable reuse is not a silver bullet. It should be considered alongside other water conservation measures and alternative measures.

"When we begin to think about using recycled water for drinking, questions are raised about the longer-term health impacts from unknown contaminants at such extremely low concentrations that we are unaware of them"

He said Singapore had gone to great lengths to try to address these problems.

"New compounds are being invented and discovered every day and understanding the health implications of thousands of chemicals and emerging pathogens is an enormous and ongoing scientific challenge"

A U.S. cancer expert, Professor Steven B. Oppenheimer Ph.D., has warned that drinking recycled water was like playing Russian roulette as there was no way to test if it was safe.

Professor Steven B. Oppenheimer, Director of the Centre for Cancer and Developmental Biology at California State Northbridge University at Los Angeles said,

"It may be fine for years until an unknown agent makes it through the process and kills people. Anytime one deals with medical and industrial wastes in such large quantities, it is likely that such a scenario will eventually materialize."

Professor Oppenheimer has a long list of awards for his cancer research, had numerous papers published on cancer and was instrumental in stopping a project for the city of Los Angeles to top up an aquifer with recycled wastewater.

Professor Oppenheimer said,

> ***"The fact that some communities in the U.S and elsewhere have been drinking reclaimed water does not make it safe. It often takes decades to detect the damage done by such projects that tinker with public health and welfare."***

He said it had taken decades to prove that smoking caused lung cancer and smoking was now regarded as the number one cause of cancer. He said this situation with recycled water was much worse in that many people did not have a choice.

Professor Oppenheimer said while there was probably no solid documented evidence to prove that ingesting recycled water harmed health, one of the most respected research groups in the world, the U.S. National Research Council, which is a branch of the National Academy of Science, had warned against it in its study. Professor Oppenheimer said this was the most definitive report of this subject ever done.

He said,

> ***"The study found that it was highly likely that some compounds would get through, highly likely that those compounds would be toxic and highly likely that nobody would know about it because there were no tests available."***

The National Research Council also warned that just because indirect potable water reuse had been around for decades and studies had been done,

> ***"Negative results from such studies do not prove the safety of the water in question."***

As there are currently no guidelines for drinking recycled water, federal guidelines are currently being fast tracked. Professor Oppenheimer said,

> ***"The world's scientific community does not and will not know all the toxic agents and carcinogens that may be able to make it through the indirect reclaimed water process to drinking water. Also, there is simply no technology to detect them."***

and

In 1996, a Rand Corporation study found that there was an almost 100% (average of 73%) increase in rates of liver cancer in areas using reclaimed water. The authors, however, down play the finding by stating there is no evidence to associate liver cancer with reclaimed water; therefore the liver cancer is most likely explained by other factors. In my opinion, and in the opinion of others who read this statement, it is flawed reasoning. [20]

Dr. Steven Oppenheimer, Augmenting Drinking Water with Reclaimed Water, http://www.beachwoodvoice.com/WaterIssue/augmentingdrinking.htm

Because regulations for safe drinking water were not developed with reclaimed water in mind, they may not be the best standard for testing its quality, the committee said. Reclaimed water may contain sources of contamination that cannot be determined through current testing or treatment processes.

After reviewing the few studies that have examined the health implications of drinking reclaimed water, the committee said that different approaches are needed to test the safety of reclaimed water. Conventional toxicology tests developed by the food and drug industries are not appropriate for evaluating the risks from complex chemical mixtures that can be found in reclaimed water. Alternative studies, such as tests using fish in source water, should be undertaken to provide a broader range of data about possible harmful

EXHIBIT B

M1W RESPONSE LETTER

BROWNSTEIN HYATT FARBER SCHRECK, LLP
1020 State Street
Santa Barbara, CA 93101-2711

Monterey One Water
Providing Cooperative Water Solutions

ADMINISTRATIVE OFFICE: 5 Harris Court, Bldg D, Monterey, CA 93940-5756
MAIN: (831) 372-3367 or (831) 422-1001 FAX: (831) 372-6178 WEBSITE: www.montereyonewater.org

July 30, 2018

Seaside Groundwater Basin Watermaster
Attn: Russell McGlothlin, Esq.
Brownstein Hyatt Farber Schreck, LLP
1020 State Street
Santa Barbara, CA 93101

RE: Pure Water Monterey Regulatory Oversight Requirements

Dear Mr. McGlothlin,

Monterey One Water (M1W) received a request from the Seaside Basin Watermaster to provide technical documentation on the safety of the advanced water purification treatment processes as they pertain to the Pure Water Monterey (PWM) Project. The included documents will provide an overview of the Project, including responses to the requested information.

M1W and the Seaside Basin Watermaster have a long history of coordination and working together on the PWM Project, dating back to when the Watermaster assisted with funding for planning and technical reports for our initial Groundwater Replenishment Project in 2008 and 2009. Additionally, the Watermaster previously reviewed and provided comments on the PWM Draft EIR (in June 2015) and on the PWM Title 22 Engineering Report (in August 2016).

Our Agency is dedicated to providing cooperative water solutions for the community and protecting human health and safety. I hope you will find the attached information reflects our commitment to create a safe and sustainable supplemental water supply while meeting and adhering to all regulatory requirements. If you are interested in touring our Demonstration Facility of the advanced purification processes used in PWM, please contact me at paul@my1water.org.

Sincerely,

Paul A. Sciuto
General Manager

CC: Randy Barnhard, DDW
Bob Jaques, Seaside Watermaster Technical Advisor

Inclusions: Pure Water Monterey Technical Summary
Independent Advisory Panel Member Bios

PURE WATER MONTEREY TECHNICAL SUMMARY

RE: Pure Water Monterey Regulatory Oversight Requirements

Project Overview

The Pure Water Monterey Groundwater Replenishment Project (PWM) is an Indirect Potable Reuse (IPR) project designed to create a diversified, safe, and reliable water source for the Monterey Peninsula. This new supply will help replace existing water sources limited by State Orders, the Seaside Basin groundwater adjudication, and seawater intrusion in the Salinas Valley.

PWM will inject 3,500 Acre Feet per Year (AFY) of highly treated purified recycled water into the Seaside Groundwater Basin to be utilized by California American Water (CalAm) as part of its water supply system in and around the Monterey Peninsula. CalAm is under a Cease and Desist Order to cease over-pumping of the Carmel River (SWRCB amended Order No. 2016-0016). In addition, new wastewater sources will increase the amount of recycled water that is used for agriculture irrigation in the Salinas Valley up to 4,750 AFY and create a drought reserve for agriculture irrigation in northern Monterey County.

Independent Advisory Panel

During the planning process for the Pure Water Monterey Project, M1W utilized the National Water Research Institute (NWRI) to assemble an Independent Advisory Panel (IAP) to review PWM and discuss areas of potential concern as the project applied for regulatory approval. The panel members included distinguished professionals in their respective fields and provided a non-biased assessment of the project. The IAP panel met in person twice plus over conference call to receive project updates and provide guidance to project team members. During the initial meeting, the IAP received the project overview plus detailed information on selected aspects of the project. During the second review, the IAP received a tour of the PWM Demonstration Facility used to test the advanced purification process and a tour of the source water diversion locations. After both meetings, the IAP provided impartial feedback to the Agency used to refine the engineering design and the Environmental Impact Report and to identify potential areas for improvement. The oversight from the IAP was instrumental in helping Monterey One Water receive a Concept Approval Letter in June 2014 from the California Department of Public Health (who is now the State Water Resources Control Board Division of Drinking Water). The Concept Approval Letter guided final regulatory approval from the State Water Resources Control Board. The biographies of the panel members are included below.

Demonstration Facility

The PWM Demonstration Facility mentioned earlier has been a useful tool to the project's development and approval process. Originally, the facility was developed to test various pieces of equipment to determine which technologies provided the most robust treatment capability best suited for influent water coming from M1W's Regional Treatment Plant. This testing process led to the final proposed treatment process and equipment and the commissioning of an updated Demonstration Facility to represent a smaller version of the future full scale plant. All treatment processes were included as well as post-water treatment stabilization. Once operational, the Demonstration Facility allowed M1W operators and engineers to continue evaluating the performance of the treatment systems and to learn to test and maintain the equipment. The Demonstration Facility has also been well received by members

of the community by serving as an educational tool for understanding the treatment processes and seeing firsthand how water can be beneficially reused for both urban and agriculture needs.

Indirect Potable Reuse Definition

One of the most important distinctions for the Watermaster to comprehend is the definitions surrounding Indirect Potable Reuse and Direct Potable Reuse. Both terms, as defined in Section 116275 of the Health and Safety Code and restated in California Water Code section 13561(b)-(d), state: Direct Potable Reuse means the planned introduction of recycled water either directly into a public water system or into a raw water supply immediately upstream of a water treatment plant, and Indirect Potable Reuse for Groundwater Recharge means the planned use of recycled water for replenishment of a groundwater basin or an aquifer that has been designated as a source of water supply for a public water system.

Based on these regulatory definitions, the Pure Water Monterey Project is an Indirect Potable Reuse project. Because purified recycled water will be injected into the Seaside Groundwater Basin, the project is not classified as a direct potable reuse project since the project does not directly connect to a public water system nor is it being introduced to a raw water supply.

A more robust list of definitions for these terms as well as other terminology used regarding water reuse can be found at the link below. These definitions were compiled in 2016 by an advisory group to provide advice and input regarding "the development of uniform water quality criteria for direct potable reuse." The group was established on behalf of the State Water Resources Control Board – per Section 13565(b)(1) of the California Water Code.
https://www.waterboards.ca.gov/drinking_water/certlic/drinkingwater/documents/rechargea_draftrecom_app_b.pdf

The advisory group elaborated on these definitions as follows:

Indirect Potable Reuse is defined as "The addition of recycled water to augment groundwater or surface waters. Groundwater and surface waters are considered environmental buffers for providing public health protection benefits, such as contaminant attenuation dilution, and time to detect and respond to failures before final treatment and distribution. Indirect potable reuse can use advanced treated water, but can also be accomplished with tertiary effluent when applied by spreading (i.e., groundwater recharge) to take advantage of soil aquifer treatment (SAT)."

Direct Potable Reuse is defined as "The delivery of purified water to a drinking water plant or a drinking water distribution system without an environmental buffer. Additional treatment, monitoring, and/or an engineered buffer(s) would be used in place of an environmental buffer to provide equivalent protection of public health and response time in the event that the purified water does not meet specifications."

The advisory committee's expanded definitions of these terms confirm that the PWM project is an Indirect Potable Reuse project.

Pure Water Monterey Indirect Potable Treatment Processes

Indirect Potable Reuse projects require Full Advanced Treatment in order for them to comply with state regulations. The Pure Water Monterey project has Full Advanced Treatment plus another treatment

process (ozonation) included for added robustness. The Advanced Water Purification Facility (AWPF) treatment train includes Ozonation, Membrane Filtration (MF), Reverse Osmosis (RO), and Advanced Oxidation Process (AOP) as the final treatment process. The purified water will be stabilized for pH in addition to mineral content adjustments to prevent scour of conveyance pipelines. Further, an environmental buffer is included in the design representing treatment and retention time that is afforded by soil after the water is injected into ground. Descriptions of the treatment processes are listed below.

Ozone

Ozonation is the first treatment process in the AWPF treatment train. Its primary purpose is to reduce the size of the large organic molecules in the secondary effluent, which improves performance of the downstream Membrane Filtration process. Ozone also assists in the destruction of Constituents of Emerging Concern (CECs) and pesticides, and provides pathogen inactivation. Although ozone has disinfection capability, no pathogen Log Reduction Values (LRV) credit is being pursued for the ozone process at this time. These key treatment objectives were successfully demonstrated at an ozone dose of 10 mg/L.

Membrane Filtration (MF)

The MF treatment system will process water pretreated by the ozone system to condition it further for downstream treatment by the Reverse Osmosis system. The MF system is proficient at removing particulate matter that will otherwise foul the RO process membranes. MF is used as a physical barrier for removal of pathogens. The membranes that were pilot tested had a nominal pore size of 0.01 microns[1]. A 4-log removal credit for Giardia cysts and a 4-log removal credit for Cryptosporidium oocysts have been established for the MF process. However, M1W is not seeking any virus removal credit for this process, even though some particulate-associated viruses would be removed through MF.

Reverse Osmosis (RO)

The RO process is used to remove dissolved constituents such as dissolved salts, pathogens, pesticides, organics, pharmaceutical compounds, and other CECs. Additional pathogen removal credits for virus, Giardia cysts, and Cryptosporidium oocysts will be credited through the RO membranes. The RO process performance for pathogen removal will be confirmed by measuring a surrogate parameter (i.e., conductivity or TDS) that demonstrates the RO membrane integrity.

Advanced Oxidation (AOP) UV/H2O2

AOPs are those in which hydroxyl radicals are generated at ambient temperature and pressure in order to facilitate oxidation of organic compounds. Hydroxyl radicals react rapidly with organics, making AOP an effective strategy for reducing the concentration of specific trace organic compounds and recalcitrant compounds. Advantages of AOPs include their ability to significantly reduce the concentrations of many CECs to acceptable levels and the relatively short hydraulic residence time required. AOP is also able to provide a high level of pathogen inactivation.

The AOP chosen for the Project is low pressure Ultraviolet light (UV) with hydrogen peroxide (UV/H2O2). It was selected for two reasons: (1) Ozone is already used in the process train as an oxidant and (2)

[1] A micron is a unit of measure in the metric system equal to 1 millionth of a meter in length (about 39 millionths of an inch). The average cross-section of a human hair is 50 microns.

H2O2 is used as part of AOP systems in existing groundwater replenishment projects using full advanced treatment, and thus has a proven track record (for example, the Orange County Water District's GWRS). The principle behind this process is that H2O2 reacts with UV light to form hydroxyl radicals which then oxidize the target compounds. This is important because it demonstrates that the UV/H2O2 process provides an effective barrier against CECs in potable reuse applications. Pathogen inactivation credits granted through the UV/AOP system are 6-log each for Cryptosporidium oocysts, Giardia cysts, and virus.

Disinfection with Chlorine

Ammonium sulfate and sodium hypochlorite will be added for secondary disinfection to prevent any bacterial regrowth in the product water conveyance pipeline and injection wells. The target total chlorine residual is 2-4 mg/L as Cl2, which is expected to rapidly decay in the aquifer.

Environmental Buffer

After going through the above processes in the AWPF, a number of treatment benefits will continue to occur once injected into the aquifer. Benefits include contaminant removal, dilution and blending, and time to detect and respond to failures before final treatment and distribution. These benefits, in conjunction with the above levels of upstream treatment, provide the necessary public health assurances required of indirect potable reuse projects. Based on the results of the modeling done for PWM, the purified injected water is projected to remain in the groundwater system for at least six months before any of the water will be pumped out by any domestic supply wells. This will meet the requirements for a 6-log virus reduction credit obtained with added tracer testing (or with a safety factor for intrinsic tracer testing). In order to get conditional approval of the 6-log reduction credit, the groundwater modeling must demonstrate a one-year travel/retention time underground. The modeling results expressed a slightly lower underground retention time therefore a lower reduction credit is proposed. Accordingly, the PWM project will only receive a 5.4-log virus reduction credit for the underground portion of the Project treatment process. The fastest travel time of 327 days represents approximately 10.8 months. With a virus reduction credit of 0.5-log per month, a 5.4-log reduction credit is projected for the project.

Approved Engineering Report

In order for an Indirect Potable Reuse project to be authorized and deemed protective of public health, an Engineering Report for the proposed project is required to be reviewed and approved by the State Water Resources Control Board, Division of Drinking Water (DDW). The Engineering Report for PWM was approved by DDW on November 7, 2016. The Final Engineering Report and additional information can be found at the following link: http://purewatermonterey.org/reports-docs/engineering-report/

Reuse Projects

Pure Water Monterey is labeled as a potable reuse project, which is a general term for a recycled water project that augments drinking water supply. This term, potable reuse, incorporates both indirect potable and direct potable reuse projects. One key aspect California regulators judiciously evaluate when approving advanced water treatment processes, is the degree to which pathogen treatment and removal meet strict requirements protecting human health. As mandated in the California Recycled Water regulations for Indirect Potable Reuse (CCR Title 22, Division 4, Chapter 3, Article 5.2), potable

reuse projects shall provide 12-log virus reduction, 10-log Giardia reduction, and 10-log Cryptosporidium reduction.

As several potable reuse projects move through the approval process, the regulatory bodies have developed comprehensive regulations to ensure the health and safety of drinking water in California. The California Recycled Water regulations require purified recycled water to meet all drinking water maximum contaminant levels (MCLs) requirements. DDW's detailed assessment of IPR projects concluded that if its strict regulations are adhered to, IPR projects do not compromise the drinking water supplies for California.

As water sources become scarcer in California, investment in recycled water purification technologies to supplement local water supplies is anticipated to grow. According to a 2018 map produced by California WateReuse, there were nine permitted Indirect Potable Reuse (groundwater recharge) projects and 22 more recharge projects being planned in California. The cumulative yearly amount of water to be reused by these planned and permitted groundwater recharge projects will be in excess of 415,000 AFY. Additionally, there are several other groundwater recharge projects already permitted throughout the United States.

Pathogen Removal from Pure Water Monterey

The below table from the PWM Engineering Report shows the PWM Project exceeds the Pathogen Log Removal Requirements. It is important to note the log removal credits for virus (12), Giardia cysts (10), and Cryptosporidium (10) would be higher if M1W seeks log removal credit for its other three treatment processes (primary and secondary treatment, ozone, and chlorine disinfection) which provide pathogen removal.

Pathogen Log Removal Expectations and Requirements

Process	Treatment Confirmation	Log Reduction Credits		
		Virus	*Giardia*	*Crypto*
Regional Treatment Plant (RTP) Primary & Secondary[a]	Not pursuing credit at this time	0	0	0
Ozone[a]	Not pursuing credit at this time	0	0	0
Membrane Filtration (MF)	Daily Pressure Decay Test (PDT)	0	4	4
Reverse Osmosis (RO)	Online conductivity monitoring[b]	1	1	1
Advanced Oxidation Process (AOP) (UV/H_2O_2)	800 to 1,200 mJ/cm^2	6	6	6
Final Disinfection-Chlorine[a]	Not pursuing credit at this time	0	0	0
Underground Residence Time in Aquifer	6-month underground retention time[c]	5.4[b]	0	0
Requirement		**12**	**10**	**10**
Total Credit		**12.4**	**11**	**11**

a. May be included if additional credit for redundancy is needed.
b. Log removals may be calculated from removal of Total Dissolved Solids (TDS) through RO and may be based on correlations between Electrical Conductivity (EC) and TDS developed for the RO feed and permeate water quality. Total Organic Carbon (TOC) monitors will also be included on the RO feed and permeate; however, conductivity is planned to be used for critical control point monitoring.
c. Actual residence time is expected to exceed 6 months. When the tracer test (using an intrinsic tracer[1]) confirms that the underground retention time is 10.8 months or greater, the Project would be credited with virus removal of 7.2-log (applying the 0.67 log safety factor for an intrinsic tracer listed in the California Recycled Water Regulations).

[1]*Intrinsic Tracers are an innate component or property of water that allows tracking of the water through sampling of local wells which assists in the calculation of product water residence time in the aquifer. Desirable intrinsic tracers have the following attributes: naturally and consistently present (or absent) in product water with reliable concentrations, provides a sharp contrast with ambient groundwater quality, conservative in the groundwater system (neither sorbed or biologically and/or geochemically reactive) and should have measurable and/or predictable physicochemical behavior, and cost-effective to analyze. Example intrinsic tracers include specific conductance, major ions (Ca2+, Mg2+, Na+, K+, Cl-, CO32- carbonate, HCO3- bicarbonate, and SO42-sulfate), and heat.*

Water Quality Monitoring
As part of the approval process, DDW requires monitoring and sampling reports be submitted regularly to ensure the quality of the finished product water. Consistent monitoring and sampling is in place to detect any failures in the process. The official monitoring and sampling reporting process for PWM is included in the Central Coast Regional Water Quality Control Board's Waste Discharge Requirement Permit/Order (WDR) for the PWM project.

Waste Discharge Requirements
The WDR (Order No. R3-2017-003) was signed on March 9, 2017 by the Central Coast Regional Water Quality Control Board Executive Officer, John Robertson. This order requires the PWM project to comply with all of DDW monitoring and sampling conditions, and also allows the highly treated purified recycled water from Pure Water Monterey to be injected into the Seaside Groundwater Basin. As part of the approval process, Section 13540 of the Water Code requires recycled water may only be injected into an aquifer used as a source of domestic water supply if DDW finds the recharge will not degrade the quality of the receiving aquifer serving as a domestic water supply. During the review of the WDR, the Central Coast Regional Water Quality Control Board prepared an anti-degradation analysis (an analysis showing how Pure Water Monterey project would not degrade groundwater quality) of the product water being injected and mixing with the native groundwater within the Seaside Groundwater Basin. DDW determined the PWM Project met all of its conditions and requirements and the injection of its product water will not degrade the Seaside Groundwater Basin.

The Waste Discharge Requirement Order can be found at the following link: http://purewatermonterey.org/wp/wp-content/uploads/MRWPCA-Advanced-Water-Treatment-WDRs_R3-2017-0003-Final.pdf. The order highlights the amount of monitoring and the frequency of the monitoring that is required to occur once the project is operational. The monitoring requirements are substantial and demonstrate how rigorous the regulatory requirements are for protecting drinking water supplies.

A description of the required reporting to both DDW and the Regional Board on all elements of the indirect potable purification process starts on page 33. A more extensive list of the individual monitoring requirements starts on page 38. The table below summarizes the *individual* monitoring requirements listed in the WDR and on what PDF page number the list can be found in the document. The actual tables shown in the WDR (see link above) list the actual constituents which are required to be analyzed and the frequency at which the sampling must occur.

Constituents	PDF Page
Influent	37
Recycled water discharge limits	38-40
Inorganics with Primary MCLs	40
Constituents with Secondary MCLs	40
Radioactivity	41
Regulated Organics	41
Disinfection Byproducts	42
General Physical and Mineral Constituents	42
Constituents with Notification Levels	42-43
Remaining Priority Pollutants	43-44
Constituents of Emerging Concern (CECs)	44
Surrogates	44-45

The table below summarizes the *groundwater* monitoring requirements listed in the WDR and on what page number the topic can be found in the document. The actual tables shown in the WDR (see link above) list the actual constituents which need to be analyzed and the frequency at which the sampling must occur.

Topic	PDF Page
Basic Water Quality Parameters	48
Constituents with Secondary MCLs	49
Radioactivity	49
Organic Chemicals (Volatile)	50-52
Disinfection Byproducts	52
Chemicals with Notification Levels	53
Remaining Priority Pollutants (Pesticides) (Acid Extractables) (Base/Neutral Extractables)	54-55
General Physical and Mineral Constituents	56

In the event of a treatment process failure, M1W shall notify the Central Coast Water Board, DDW, and, immediately following those notifications, all water purveyors drawing potable water from the Seaside Basin by telephone or electronic means. This must be done as soon as M1W becomes aware of, but no later than 24 hours after obtaining knowledge of, any violations or any adverse conditions as a result of the use of recycled water from this facility. Written confirmation is then to be sent to the Central Coast Water Board and DDW within five working days from date of notification.

Current Status of Pure Water Monterey

Pure Water Monterey has four distinct components and all four of these components are currently under construction. (1) The AWPF is 45% completed, (2) the conveyance pipeline – in partnership with Marina Coast Water District – is 80% completed, (3) source water diversions are at the 45% completion stage, and (4) the injection well facilities are at 18% completion. This progress is a testimony to the region's commitment to the Project.

Monterey One Water

NATIONAL WATER RESEARCH INSTITUTE
Independent Advisory Panel

Monterey One Water (previously Monterey Regional Water Pollution Control Agency)
Pure Water Monterey Groundwater Replenishment Project

PANEL MEMBER BIOGRAPHIES

GEORGE TCHOBANOGLOUS, Ph.D., P.E., NAE
Professor Emeritus
University of California, Davis (Davis, CA)

For over 35 years, wastewater expert George Tchobanoglous has taught courses on water and wastewater treatment and solid waste management at the University of California, Davis, where he is Professor Emeritus in the Department of Civil and Environmental Engineering. He has authored or coauthored over 500 publications, including 22 textbooks and eight engineering reference books. Tchobanoglous has been past President of the Association of Environmental Engineering and Science Professors and currently serves as a national and international consultant to both government agencies and private concerns. Among his honors, he received the Athalie Richardson Irvine Clarke Prize from NWRI in 2003, was inducted to the National Academy of Engineers in 2004, and received an Honorary Doctor of Engineering degree from the Colorado School of Mines in 2005. In 2012, he received the first Excellence in Engineering Education Award from AAEE and AEESP. In 2013, he was selected as the AAEE and AEESP Kappe Lecturer. Tchobanoglous received a B.S. in Civil Engineering from the University of the Pacific, an M.S. in Sanitary Engineering from the University of California, Berkeley, and a Ph.D. in Environmental Engineering from Stanford University.

JEAN-FRANÇOIS DEBROUX, Ph.D.
Director, Advanced Technologies Group
Kennedy/Jenks Consultants (San Francisco, CA)

At Kennedy/Jenks Consultants, Jean Debroux serves as Director of the Advanced Technologies Group, which was formed to solve technologically challenging problems. Part of this effort includes performing pilot and field studies for regulated and emerging contaminants and evaluates the cost impacts of complying with Safe Drinking Water Act regulations. A water quality expert, Debroux has extensive experience and expertise working with water utilities and research organizations in water treatment and water reuse issues, and is an active member of the WateReuse Foundation, where he serves on the Research Advisory Committee. Debroux received a B.S. in Chemical Engineering from the University of South Florida, and both an M.S. in Environmental Engineering and Ph.D. in Civil Engineering from the University of Colorado, Boulder. In addition, he attended the Environmental Management Institute at Tufts University and has served as a Post-Doctoral Research Fellow and Lecturer at Stanford University and as a Research Fellow at Université de Poitiers, France.

Monterey One Water

PANEL MEMBER BIOGRAPHIES

MARTIN B. FEENEY, P.G., CHG
Consulting Hydrogeologist (Santa Barbara, California)

Martin Feeney has been a consulting hydrogeologist since 1997, providing hydrogeologic consulting services to water agencies, private industry, and engineering firms. Prior to this, he served as hydrogeologist at various consulting firms such as Balanced Hydrologics, Inc. and Fugro West, Inc., where he provided analysis of groundwater basins, developed groundwater flow and transport, and developed saline groundwater source for desalination plants, injection wells/artificial recharge programs, and underground storage tank site assessment and remediation. He has also been involved in numerous groundwater resources and water well projects throughout California, working for groups such as Monterey County, Salinas Valley, Santa Clara Valley Water District, Ventura County, and various others. Feeney received a B.S. in Earth Sciences from the University of California, Santa Cruz and an M.S. in Environmental Planning (Groundwater) from California State University.

MICHAEL P. WEHNER, REHS, MPA
Assistant General Manager
Orange County Water District (Fountain Valley, California)

Mike Wehner has over 40 years of experience in water quality control and water resources management. He has been with the Orange County Water District (OCWD) since 1991, currently serving as Assistant General Manager. Among his responsibilities, he directly manages the Water Quality and Technology Group, including Laboratory, Water Quality, Hydrogeology, Research and Development, and Health and Regulatory Affairs Departments. He is also involved with numerous aspects with the Groundwater Replenishment System (the nation's largest IPR project), including providing technical guidance on treatment and quality, as well as managing monitoring programs for the purification facility and receiving groundwater. He was also manager of OCWD's 8-year Santa Ana River Water Quality and Health Study, which evaluated the impact of using effluent-dominated river waters for groundwater recharge. Prior to joining OCWD, Wehner spent 20 years with the Orange County Health Care Agency, where he managed the Water Quality Control Section of Environmental Health. He is a Registered Environmental Health Specialist in California and is an internationally recognized expert in water quality, public health, and advanced water treatment processes, serving on expert panels in the United Kingdom, Australia, and Singapore, as well as for California and U.S. agencies and foundations. He received a Masters of Public Administration from California State University Long Beach and a B.S. in Biological Sciences from the University of California, Irvine.

MRWPCA/Monterey One Water
Pure Water Monterey Project Team Biographies

JAMES CROOK, PH.D., P.E.
Environmental Engineering Consultant

Jim Crook is an environmental engineer with more than 40 years of experience in state government and consulting engineering arenas, serving public and private sectors in the U.S. and abroad. He has authored more than 100 publications and is an internationally recognized expert in water reclamation and reuse. He has been involved in numerous projects and research activities involving public health, regulations and permitting, water quality, risk assessment, treatment technology, and all facets of water reuse. Crook spent 15 years directing the California Department of Health Services' water reuse program, during which time he developed California's first comprehensive water reuse criteria. He also spent 15 years with consulting firms overseeing water reuse activities and is now an independent consultant specializing in water reuse. He currently serves on several advisory panels and committees sponsored by NWRI and others, including serving as co-chair of the Expert Panel on the "Development of Water Recycling Criteria for Indirect Potable Reuse through Surface Water Augmentation and the Feasibility of Developing Criteria for Direct Potable Reuse" for the State Water Resources Control Board Division of Drinking Water. Among his honors, he was selected as the American Academy of Environmental Engineers' 2002 Kappe Lecturer and the WateReuse Association's 2005 Person of the Year. Crook received a B.S. in Civil Engineering from the University of Massachusetts and both an M.S. and Ph.D. in Environmental Engineering from the University of Cincinnati.

SHANE TRUSSELL, PH.D., P.E., BCEE
President, Trussell Technologies

Shane is the President of Trussell Technologies, Inc. – a firm focused on developing new water supplies. Shane has been working on potable reuse projects for more than 20 years and his firm is currently working on the regulatory strategy and process design for more than a half dozen potable reuse projects in California, including the first Surface Water Augmentation project in California – San Diego's 30 MGD North City Project to deliver water to Miramar Reservoir. Shane received his PhD from UC Berkeley studying Membrane Bioreactors and has been actively involved in Direct Potable Reuse research as PI or Co-PI on more than a dozen projects.

MARGARET H. NELLOR, P.E.
Nellor Environmental Associates, Inc.

Ms. Nellor is an expert on regulations and permitting for recycled water and groundwater recharge dating to the early projects in California. She has worked on the agency side as Assistant Department Head of Technical Services at LACSD and as Acting Head of Technical Services for the Orange County Sanitation District. She has worked on the six permitted potable reuse projects in California as well as others in the planning phase. Ms. Nellor has gained a reputation as a preeminent leader at the forefront of regulatory, compliance, and technical issues associated with reuse. Ms. Nellor provided technical review and analysis, developed formal CDPH and RWQCB regulatory comments, and hearing testimony for the six permitted potable reuse projects in California: (1) Montebello Forebay Groundwater Recharge Project, (2) Chino Basin Groundwater Recharge Project, (3) Groundwater Replenishment System, (4) West Coast Basin Barrier Project, (5) Alamitos Barrier Project, and (6) Dominguez Gap Barrier Project. She also assisted with numerous wastewater NPDES discharge and water reuse permits. She is an advisor to CDPH on groundwater recharge regulations and a technical advisor to WateReuse California on the California Water Recycling Policy, CEC monitoring, and on Assembly Bill 2398 regarding IPR and direct reuse. Ms. Nellor has worked on numerous projects for California agencies, including: (1) Water Replenishment District, (2) City of Los Angeles, (3) the City of San Diego, and (4) Metropolitan Water District. She specializes in analyzing the impacts of regulations on compliance and implementation strategies, including planning studies for potable reuse projects (groundwater recharge and surface augmentation), anti-degradation issues (including SNMP), and meeting soil aquifer treatment criteria. Ms. Nellor has been PI for WateReuse Research Foundation (WRF) Projects: (1) WRF-06-018 Tools to Assess and Understand the Relative Risks of Indirect Potable Reuse Projects and (2) WRF-08-01 Developing Standards/Criteria for Various End Uses of Recycled Water. She was also a contributor to the WRF's Best Practices for Developing Indirect Potable Reuse Projects and was a co-PI for the WRF project, An Investigation of Soil Aquifer Treatment for Sustainable Reuse and the project manager for the Health Effects Study. She received a B.S. in Civil Engineering from the University of Texas and a M.S. degree in Environmental Health Engineering also from University of Texas.

BAHMAN SHEIKH, PHD, PE

Bahman Sheikh has over 30 years of domestic and international experience in research, planning, and design of water resources projects, specializing in water conservation, reclamation, reuse, and recycling. His career began as a university professor, teaching courses in water quality for various applications. Dr. Sheikh's academic career was followed by consulting, technical investigations, master planning, and design of water resources facilities. Sheikh's water recycling experience includes service in the public sector; For the City of Los Angeles, he performed goal-setting, project planning, regulatory liaison, public outreach, and implementation of public policy programs. The focus of much of Dr. Sheikh's service has been on public health and safety of recycled water used for irrigation, industry, and potable applications. Most of Dr. Sheikh's client service is concentrated in California, Colorado, and (most recently) in Hawai'i. In addition, he has served clients with water reuse projects in 21 countries, including Peru, Bonaire, Mexico, South Korea, Australia, Saudi Arabia, Egypt, India, Jordan, Kuwait, UAE, Syria, Bahrain, Morocco, and Tunisia.

Bahman Sheikh has extensive experience in all aspects of water resources management, water use patterns and promotion of water use efficiency, recycling, and reuse, including technical and regulatory issues, water quality, program management, alternatives analysis, feasibility studies, and planning for long-term development of water recycling for large regions and small communities. He conceived, planned, and conducted major long-term pilot studies of pioneering water recycling programs in Monterey County and in the City of Los Angeles, demonstrating the safety of regulated use of highly treated and disinfected reclaimed water.

GORDON WILLIAMS, PH.D., P.E.
Manager of Planning & Analysis for Water Quality, East Bay Municipal Utility District

Gordon Williams is the Manager of Planning and Analysis at the East Bay Municipal Utility District, where he is responsible for regulatory planning related to water quality. Previously, he worked at EBMUD as a design engineer for water treatment plant improvements. Prior to that he was a Principal Engineer at Trussell Technologies, where he designed, tested, and optimized advanced and emerging water treatment technologies. Gordon has also volunteered for the CA/NV Section of AWWA in leadership roles in the recycled water committee, water resources division, and AWT operator certification committee. He earned his Ph.D. in Civil and Environmental Engineering from the UC Berkeley, and his B.S. degree from Virginia Tech.

JOHN KENNY, P.E.
Supervising Engineer, Trussell Technologies

John Kenny is a supervising engineer at Trussell Technologies. Mr. Kenny has six years of experience developing and implementing innovative water quality and process solutions. Mr. Kenny has worked on the Pure Water Monterey project since inception, conducting bench-scale and pilot-scale testing, designing the Advanced Water Purification Facility, operating the Demonstration Facility, and permitting the project with the Division of Drinking Water and the Regional Water Quality Control Board. Mr. Kenny got his masters in environmental engineering from the University of California at Berkeley.

DERRIK WILLIAMS, M.S., P.E.,
California Professional Geologist and Certified Hydrogeologist

Derrik Williams is a California Professional Geologist and Certified Hydrogeologist, with more than 30 years of experience in applied geology and hydrogeology. He obtained his bachelor's degree in geology from U.C. Davis, and his master's degree in hydrology from the University of Arizona. He has practiced groundwater management in California for over 30 years. His project experience includes managing, reviewing, and assisting on water supply, managed aquifer recharge, wastewater disposal, and hazardous waste remediation projects. Derrik is accomplished in analytical hydrogeology, with extensive interpretation and application of groundwater flow and transport models.

Mr. Williams has extensive experience working with diverse stakeholders and obtaining consensus on challenging projects. He has been retained by clients to help develop Basin Management Plans in areas with contentious water right issues, and has testified in court regarding groundwater-surface water interactions.

As a member of the Groundwater Committee of the Association of California Water Agencies (ACWA) since 2008, Derrik helped shape the California Statewide Groundwater Elevation Monitoring Program (CASGEM) and helped develop ACWA's Groundwater Framework document. He additionally drafted ACWA's Guidelines for Groundwater Monitoring. Derrik worked closely with California Department of Water Resources to develop the state's Sustainable Groundwater Management Act (SGMA) implementation process. Derrik was founder and President of HydroMetrics WRI, which was acquired by Montgomery & Associates in 2018.

PHYLLIS STANIN, PG, CHG, CEG,

Vice President and Principal Geologist at Todd Groundwater,

Phyllis has been a professional geologist for more than 35 years with expertise in hydrogeology and groundwater basin management, and a particular emphasis on managed aquifer recharge (MAR) and conjunctive use. She has decades of experience with groundwater resource development including production and injection wells, geophysical applications, aquifer testing, and monitoring. She has conducted numerous regional hydrogeologic assessments using advanced analytical and numerical modeling tools. She has also prepared numerous groundwater management plans—including several in the San Joaquin Valley especially in Kern County —and currently is assisting several clients with Sustainable Groundwater Management Act (SGMA) compliance. Her expertise also includes fate and transport of contaminants in groundwater including constituents of emerging concern. She has performed geologic investigations in seven states across the U.S. and conducted independent research on impacts to groundwater flow from geologic faults. Phyllis earned a B.S. degree in Geology from University of North Carolina and a M.S. degree in Environmental Management from University of San Francisco.

EDWIN LIN, PG, CHG,

Principal Hydrogeologist at Todd Groundwater,

Ed has 20 years of experience in groundwater basin management, including all facets of conceptual hydrogeologic model development and evaluation of feasibility, benefits, and regulatory compliance of managed aquifer recharge (MAR) projects involving imported water, stormwater, and recycled water. Mr. Lin has published papers on well clogging mechanisms and pre-treatment options for Aquifer Storage and Recovery (ASR) in cooperation with the Australian Commonwealth Scientific and Industrial Research Organization. Mr. Lin has also been responsible for the design and construction of municipal water supply and monitoring wells using a variety of drilling methods, and analysis of aquifer pumping tests. He is skilled in Geographical Information Systems (GIS), database development, geochemical analyses, and application of advanced environmental statistics. Mr. Lin has supported his clients with preparation of regulatory-driven groundwater management documents with a vision on expanding conjunctive use. Through these projects, he has developed an appreciation of stakeholder and regulatory involvement and the importance of effective communication of technical subjects to a diverse audience. Ed received his B.S. in Geological and Environmental Sciences from Stanford and a M.S. degree in Groundwater Hydrology from Flinders University in Australia.

EXHIBIT C

DECLARATION OF RUSSELL M. MCGLOTHLIN IN SUPPORT OF NOTICE OF LODGING OF CORRESPONDENCE RE PURE WATER MONTEREY PROJECT

BROWNSTEIN HYATT FARBER SCHRECK, LLP
1020 State Street
Santa Barbara, CA 93101-2711

DECLARATION OF RUSSELL MCGLOTHLIN
IN SUPPORT OF NOTICE OF LODGING OF CORRESPONDENCE
RE PURE WATER MONTEREY PROJECT

I, Russell McGlothlin, declare as follows:

1. I am an attorney with the law firm Brownstein Hyatt Farber Schreck, and I am the attorney of record in this matter for Seaside Groundwater Basin Watermaster ("Watermaster"). I have personal knowledge of the matters set forth in this declaration and, if called as a witness, could testify competently to them. I make this declaration in support of the Notice of Lodging of Correspondence re Pure Water Monterey Project ("Notice of Lodging") filed concurrently herewith.

2. I have received numerous email correspondences from Mr. John Moore between June 17, 2018 and August 12, 2018 regarding his concern about the quality of the treated water proposed to be injected into the Seaside Groundwater Basin pursuant to the Pure Water Monterey groundwater replenishment project ("PWM Project"). Mr. Moore requested that his email correspondence be provided to the Court.

3. I forwarded a copy of certain correspondence received from Mr. Moore to Monterey One Water ("M1W") and requested that they draft a response for the Court's information.

4. On July 24, 2018, I contacted Moore to clarify which of the numerous emails he had sent to me that he would like provided to the Court and he identified a subset of correspondence, a true and correct copy of which is attached to the Notice of Lodging as Exhibit A.

5. On July 30, 2018, I received a letter from M1W in response to the correspondence received from Moore, a true and correct copy of which is attached to the Notice of Lodging as Exhibit B.

I declare under penalty of perjury pursuant to the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on August 16, 2018, at Santa Barbara, California.

Russell McGlothlin

PROOF OF SERVICE

STATE OF CALIFORNIA)
)
COUNTY OF SANTA BARBARA)

I am employed by Brownstein Hyatt Farber Schreck in the County of Santa Barbara, State of California. I am over the age of 18 and not a party to the within action; my business address is: 1020 State Street, Santa Barbara, California 93101. On August 16, 2018, I served the within document:

- **NOTICE OF LODGING OF CORRESPONDENCE RECEIVED RE PURE WATER MONTEREY PROJECT**

☐ **BY OVERNIGHT DELIVERY.** By placing with an overnight mail company for delivery a true copy thereof, enclosed in a sealed package, delivery fees prepaid addressed as shown on the Service List below.

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I declare under penalty of perjury under the laws of the State of California that the above is true and correct. Executed on August 16, 2018, at Santa Barbara, California.

Caitlin Malone
CAITLIN MALONE

California American Water v. City of Seaside
Monterey County Superior Court Case No. M66343

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